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Principals

To explore questions such as: (1) What kind of vocational training is really needed? (2) How much should be specific, and how much general? (3) At what levels of the educational ladder can vocational content best be inserted? (4) How much can be done within the present framework of our secondary schools, and what sort of new institutions are required? Dale C. Draper undertook a fact-finding study in which he read widely, interviewed many key persons, and visited various types of vocational centers. His report, in the first major section of the document, covers (1) basic legislation, (2) students to be served, (3) the manpower situation, (4) curriculum innovations and issues, (5) vocational education for unemployed youth, and (6) the administration of vocational education. Also included are the Committee's 10 conclusions after reviewing the report. Among needs identified were: (1) preparation by the public educational system of all young people for effectiveness in the world of work, (2) provision of a complete program of vocational education beginning when the individual enters school, and (3) the necessity of special efforts on behalf of students who are not achieving in school. (JK)

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Educating for Work

NATIONAL COMMITTEE ON SECONDARY EDUCATION

PAPER NUMBER TWO

NATIONAL COMMITTEE PAPER
Number Two

Educating for Work.

*A Report on the Current Scene
in Vocational Education and*

by
Dale C. Draper
San Francisco State College

and

The Committee's Conclusions.

A Statement by the National Committee
on Secondary Education

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Foreword

OUR country is launched on a new, ambitious, and complex experiment in vocational education. This is a response to three compelling forces:

Serious unemployment of youth as they emerge from our schools;

An awakened national conscience concerning our underprivileged;

Continuing and significant changes in industry and trade requiring more skilled and intelligent workers, and leaving less opportunity for the unskilled.

To meet these pressures it was natural that people should turn to vocational education for solutions.

The Vocational Education Act of 1963 multiplied the federal funds available and dramatically expanded the scope of the secondary school program. Outside the schools the Job Corps is building its string of what are essentially residential vocational schools. For adults a variety of development and training and retraining programs has become available. At the more technical level, junior colleges, community colleges, and trade and technical institutes are burgeoning. In many states area vocational schools covering a wide range of secondary, post-secondary, and adult vocational preparation are springing up. In older institutions new programs are being instituted, and there is increasing exploration of such devices as work-study programs.

These changes are happening so rapidly that it is difficult even to keep informed of what is taking place, much less to evaluate it. In a movement of this sort there are almost sure to be waste motion, waste money, and a few mistakes, along

with some very promising achievements. Unfortunately, there is conflict as to ideas and methods, and even a good deal of confusion as to purposes.

Many questions are in the minds of thoughtful people. For example, what kind of vocational training is really needed? How much should be specific, and how much general? At what levels of the educational ladder can vocational content best be inserted? How much can be done within the present framework of our secondary schools, and what sorts of new institutions are required?

To explore these and other questions, this Committee commissioned Professor Dale C. Draper of San Francisco State College to undertake a fact-finding study. He has read widely, interviewed many key persons, and visited various types of vocational centers. His very perceptive report makes up the bulk of this paper.

The Committee has reviewed Professor Draper's report, and discussed it with him. It has seemed to us that it would also be useful to set down our own conclusions to supplement his report, and as an aid to further thinking. We have done this in the second section of this paper. Our most important observation is perhaps the last one: that in this fluid and growing field in which opinions differ widely, much research and experiment and, above all, careful and constructive thought are essential. Professor Draper's study is a good starting point.

W. RANDOLPH BURGESS, *Chairman*
National Committee on Secondary
Education

A Report on the Current Scene in Vocational Education

I: Introduction

IN OUR society the number of different jobs for which people must be prepared has been growing steadily, and the complexity of many of the jobs has grown apace. At the same time it has become apparent that persons with inadequate preparation are not sharing in the advantages brought by technology; that, more and more, they are left with little or nothing to do in the economic life of the country. And, even though cybernetics may some day loosen the hold of the work ethic on society, people now obtain through work not only their economic rewards but also much of their identity, their social contacts, and their sense of accomplishment.

Public policy makers have turned to vocational education as one means of enabling young people to move from school to productive, satisfying adult life. In the past few years this emphasis has been formalized in a variety of federal actions, including the Manpower Development and Training Act of 1962, the Vocational Education Act of 1963, the Economic Opportunity Act of 1964 (Job Corps and Neighborhood Youth Corps), and the Elementary and Secondary Education Act of 1965.

The Manpower Development and Training Act of 1962 was designed to reduce unemployment and to enable under-employed persons to move to better jobs or to adjust to technological change. MDTA programs have offered young people, particularly school dropouts, an alternate route through training to a job.

The Vocational Education Act of 1963 "opened up" vocational education in two important ways. It facilitated the extension of vocational education to more geographic areas—particularly to small communities—to training in all occupations except the professions, and to the full range of interests and skill potential. It also strengthened the concept of "continuing education" by supporting post-high school and adult vocational education programs. To facilitate this "opening up," the act encouraged the establishment of area vocational schools. These schools offer a way in which several schools or school districts can pool resources, facilities, and students to provide more complete vocational training programs. Each center is required to offer programs for out-of-school youth and adults as well as those in school.

The function of the Job Corps, one of the programs included in the Economic Opportunity Act of 1964, is to improve the employability of out-of-work young people from disadvantaged areas. Enrollees are moved from their home environment into a residential training center for around-the-clock formal and informal training opportunities.

The Neighborhood Youth Corps, also a part of the Economic Opportunity Act, was established to provide work experience in governmental and nonprofit private agencies for youth from low-income families. In addition to financial support of needy youth to help them stay in school, the program stresses the development of attitudes and behavior required for regular employment.

Vocational training is also a possibility under the terms of the Elementary and Secondary Education Act of 1965. Its funds can be used to supplement vocational training programs or to add a vocational preparation component to more complex programs for children and youth from disadvantaged areas.

These five federal programs concerned with vocational education, introduced in rapid succession, had the potential of influencing American education in significant ways, and they have been the source of much activity. By 1966 many professional and lay observers of education began to wonder about the nature and significance of the developments. They raised anew some old questions about vocational education,

but they also added some new twists to these questions and raised a few new questions; for example,

1. How important is skill training as compared to the understanding of underlying principles and the mastering of related knowledge in an occupation? Have the new programs taken into account the significance of rapid technological change?
2. How can educational programs be designed so that general and vocational components are effectively integrated? Is the new emphasis on vocational education tending to de-emphasize general education and/or increase the separation of the two?
3. Can comprehensive high schools encompass the programs of general and vocational education needed for a wide range of student interests and abilities? Does the addition of an area vocational school tend to strengthen or weaken the comprehensive high school?
4. How many and what kinds of people need vocational training to enter the world of work at a level appropriate to their abilities and needs?
5. What kinds of programs will help people with special needs, particularly those from disadvantaged areas?
6. What national, state, and local policies, organizations, and services are needed to further develop and administer vocational education?

It was such concerns as these which led the National Committee on Secondary Education to commission a fact-finding study of vocational education. It was to assess the effects of the new federal programs on the vocational education of secondary students. And it was to study whether the new programs were tending to split vocational education off from general education, to separate vocational students from other students, and to encourage specialized schools at the expense of more comprehensive schools.

There was some difficulty in separating developments in secondary vocational education from developments elsewhere, for the new acts also expanded programs at post-high school, college, and adult levels. While state and local agencies were making decisions about vocational education, they were also considering other educational policies which affected vocational education. These included the establish-

ment or expansion of community or junior colleges and the consolidation of small districts into larger ones. Nevertheless, for the most part, this study is limited to the long-term, comprehensive job-entry vocational preparation of students at the secondary school level and to the effects of the Vocational Education Act of 1963.

Before moving on to the body of the report, the writer wishes to thank the members of the Division of Vocational and Technical Education of the U.S. Office of Education and the staff of the American Vocational Association for their great help. They spent much time pointing out the developments in vocational education. They made available their reports and files. And they suggested people to see and places to visit. In the course of a long trip in which many areas were visited, state and local directors of vocational education, principals, teachers, students, trainees, and corpsmen were also most gracious and informative.

II: The Basic Legislation

BEFORE 1963, vocational education in secondary schools was largely shaped by the Smith-Hughes Act of 1917, modified only by several subsequent acts. One of the characteristics of the Smith-Hughes Act was its prescriptiveness. It not only specified the areas for which federal support would be given and the financial allocation for each field, but also set time allocations and standards of purpose, content, and method for most courses. It authorized funds for programs in agriculture, trade and industry, and home economics. Subsequent acts authorized programs in distributive occupations (1937) and practical nursing and the fishing trades (1956). Otherwise, except for a considerable increase in funding, there was little change in the basic structure from 1917 to 1963.

In a report issued in 1964 by the American Council on Education, Venn and Marchese say that the sponsors of the Smith-Hughes Act made its terms so explicit because at that time few people knew what went into a good vocational education program. The provision that each state, to qualify, must have a State Board for Vocational Education and a state plan for the administration of vocational education reflected a feeling that because of the "historic antipathy of many general educators" the program needed to be administered by "people familiar with and sympathetic to vocational education." (45:65)*

* This and subsequent citations are to the bibliography, which begins on page 106. This reference is to page 65 in reference number 45 of that list.

Venn and Marchese also point out that while the Smith-Hughes Act represented a national endorsement of vocational education, its provisions were rooted in circumstances preceding World War I. This led to such results as:

1. Identification of vocational education as a high school function, outside the interest or concern of higher education (through the "less than college grade" provision).
2. Stress on useful and productive activities as a major portion of the programs of instruction.
3. Expectation that graduates would enter employment related to this training, with need for retraining unlikely.
4. Limitation of chances for continuing education beyond the high school for those who elected vocational programs.
5. Primary emphasis of federal support on farm-related occupations.
6. Emphasis, in industrial training, on trades and crafts.
7. Institutionalization of school equipment and teacher experience with little expectation of problems of obsolescence.

Enrollments increased, with home economics and business education leading in numbers for many years. (Business education programs were not federally reimbursed.) Thus the two leading fields were, in a sense, the least "vocational." Home economics aimed chiefly at preparation for homemaking, while many students enrolled in business courses for avocational reasons. Courses in agriculture, home economics, office occupations, and, in a few cases, distributive education were generally found in comprehensive schools. Trade and industrial programs were confined largely to the cities and to special full-time technical high schools, though a few small schools offered them through cooperative arrangements with shops and factories.

Area vocational schools have existed in a few states for some time, some even predating the Smith-Hughes Act. Connecticut, for example, began its system of regional vocational-technical schools in 1910. Operated by the Connecticut State Department of Education, the 14 schools have primary responsibility for the state's vocational-technical education at

the secondary level. Kentucky established two vocational-technical schools in 1938, and by the mid-40's it had 13 area vocational schools, one of which established a "satellite" extension center to serve the schools in a remote area.

Some common practices emerged as to the control and administration of vocational education. In most states the same people served on both the State Board of Education and the State Board for Vocational Education, and the Division of Vocational Education was in the State Department of Education. Thus, the administrative separation written into the Smith-Hughes Act was somewhat alleviated. However, in a few states separate vocational units operated below the state level. In New Jersey vocational education programs were operated by separate boards at the county level, while in Wisconsin vocational education was the responsibility of a separate local administration.

The Panel of Consultants

After World War II it became apparent that the Federal-State programs of vocational education were not adequate to meet the demands brought about by such developments as:

- Generally increasing skill requirements
- Emergence of new fields of employment
- Changes in manpower requirements both by occupations and by geographic areas
- Concern for more effective use of manpower
- Desire to reduce poverty and unemployment

In 1961, President Kennedy appointed a Panel of Consultants on Vocational Education to review and evaluate the current situation and make recommendations for improvement. One finding which resulted was that vocational education had not been sufficiently sensitive to factors of supply and demand in the labor force. Offerings and enrollments generally lagged considerably behind employment opportunities. The situation by occupational fields was this: (32:63)

OCCUPATION	PERCENT OF SCHOOLS OFFERING	STUDENTS ENROLLED AS OF % OF AGE GROUP 15-19	EMPLOYMENT OPPORTUNITIES
Agriculture	45	3.5	Number needed may decrease; technical requirements are increasing.
Trade and Industry	10	2.0	20% of employed population in these areas; large expansion needed.
Home Economics	95	7.1	Courses offered primarily focused on homemaking; related vocational fields expanding rapidly.
Distributive Education	10	0.3	Opportunities are large and widely scattered.
Business Education	80	13.5	Includes many students enrolled for avocational purposes.

These data and others gathered by the Panel revealed that a student's opportunity to obtain an appropriate vocational education was colored by where he lived. Wide variations existed as to the number and kinds of programs offered. The figures for trade and industrial education were particularly striking. Only two percent of the age group were in the programs even though employees in these areas made up a large fraction of the labor force. Trade and industry courses were available mostly in large cities. Even so, about half the schools which offered these courses had no more than four programs. Students in smaller schools naturally tended to have even fewer choices.

During the Smith-Hughes era vocational education was often considered by parents, educators, students, and vocal citizens to be less important, and less prestigious, than preparation for college. Thus, vocational education sometimes got the short end of the budget and had to make do with poor buildings and equipment. Furthermore, it was often considered a dumping ground for poor students. To counteract this image as well as to satisfy the requirements of employers, vocational educators tended to be selective. In the struggle for prestige, both general and vocational educators and their communities tended to forget those with special needs—the disadvantaged student and the potential dropout.

To correct what seemed to be an inadequate situation, the Panel of Consultants made many suggestions for the improve-

ment of the federally supported vocational programs. Most of their suggestions were accepted by Congress and found form in the Vocational Education Act of 1963.

The Vocational Education Act of 1963

The act designates four groups of persons to be served: (a) those in secondary school, (b) those who have completed or discontinued their formal education and are preparing to enter the labor market, (c) those who have already entered the labor market and need to upgrade old skills or learn new ones, and (d) those with special educational handicaps. Vocational education thus embraces college and adult levels as well as the secondary schools; it includes retraining as well as job-entry training; and it offers programs for those who are in some way disadvantaged as well as for interested, able students.

In several respects the Vocational Education Act of 1963 incorporated marked changes from the older programs. Nearly all these changes were in the direction of opening up new possibilities and striving for greater flexibility.

1. It eliminates previous restrictions limiting support to certain designated vocational areas (e. g., agriculture) and permits instruction in all occupational fields and levels other than professional. (Removal of categorical support was strongly resisted during Congressional hearings by traditionalist vocational educators. (19), (39) However, the elimination of categorical support facilitates the introduction of new courses as new occupations emerge and the demands of the labor market change.)
2. It sanctions programs for all ages and abilities, with particular attention to those who have academic, socio-economic, or other handicaps. While all courses supported by the act must be integral parts of programs to enable students to obtain employment, and students must be "bona fide vocational students," instruction can be given in any subject which will enable the student to benefit from vocational education. (This provision enables schools to design integrated programs of vocational and general education for disadvantaged students. Also, it provides a way by which programs under this act and those under the Elementary and Secondary Education Act can be coordinated. The

work-study program for those needing an income to stay in a vocational education program should be of considerable help to the economically handicapped.)

3. To make programs accessible to many people, the act permits the use of various kinds of publicly controlled institutions such as comprehensive high schools, area schools, junior and community colleges, and four-year colleges and universities. It encourages the building of area vocational schools and the provision of programs for those who have left school. Residential facilities may be constructed where distance or poor home environment of students is a factor. Apprentice and cooperative programs may also be included.
4. To round out the funding of programs, at least three percent of each state allotment is to be used for ancillary services, including guidance and counseling, teacher training, and administration.
5. Ten percent of the amount appropriated annually is to be used under direct authority of the U.S. Commissioner of Education for research and for experimental and pilot programs, with emphasis on youth in economically depressed areas.

Advisory Groups

To keep vocational education programs realistic in terms of the needs of the labor market and the people to be served, the VEA provides for several advisory and review bodies.

- a. To advise the Commissioner of Education, there is to be a National Advisory Committee composed of the Commissioner of Education, representatives of the Departments of Commerce, Agriculture, and Labor, and twelve nongovernmental members, not more than six of whom shall be educators.
- b. A National Advisory Council is to be appointed by the Secretary of Health, Education, and Welfare to review and evaluate all publicly supported programs of vocational education, starting in 1966 and submitting its report by January 1, 1968, and at intervals of not more than five years thereafter.
- c. State boards are to include or create a functioning advisory council whose members have recent experience in the fields of management and labor.

- d. Each state department of education and each district working under the state plan is to develop cooperative arrangements with the state employment service to exchange information regarding the status of the labor market and the occupational qualifications of students completing or having completed vocational education courses and wishing to be employed.
- e. Programs of instruction are to be developed in consultation with potential employers or others having substantive knowledge of the occupational field of study being planned.

Even though VEA63 is considerably more "open" than the Smith-Hughes Act, opportunities for separation between general and vocational education continue to exist. The requirement that vocational education must be designed to fit individuals for employment in a recognized occupation eliminates support, except experimentally, for courses which simply orient the student to the world of work in general, or courses which are exploratory or prevocational. Yet these are the courses which could provide some unity between vocational and general education. Also, the separate administrative and supervisory organizations and reporting procedures required by the act could fragment school systems.

Schedule of Funding

To fund the program envisioned in the act the amounts shown in Table I were authorized.

TABLE I
AUTHORIZATIONS UNDER THE FEDERAL ACTS
(in millions)

Fiscal Year	Vocational Education Act of 1963			Smith-Hughes and George-Barden Acts		Totals
	Available to States	Research & Development Grants	Work Study & Residential Schools			
1964	54.0	6.0		57.15		117.15
1965	106.65	11.85	30.0	57.15		205.65
1966	159.75	17.75	50.0	57.15		284.65
1967	202.5	22.5	35.0	57.15		317.15
1968 and thereafter (from VEA)	202.5	22.5	35.0	57.15		317.15

III: The Students to Be Served

"THE purpose of the Vocational Education Act is to assist states (and schools) to improve and extend existing programs of vocational education and to develop new programs so that high school youth in all communities will have access to vocational training suited to their needs, interests, and abilities." This paraphrase of VEA63 implies increased numbers. But the expansion will not only be a matter of numbers but also a matter of differing needs, interests, and abilities. Who will the additional students be? How will they resemble those already in vocational education? How will they differ from them?

An Enrollment Projection

The Panel of Consultants on Vocational Education has estimated that during the sixties 26 million young workers will be entering the labor force. Of these, two out of every ten, or about five million, will complete college and presumably be employed in some profession. The other 21 million will be seeking nonprofessional occupations. The Panel recommended that training opportunities be offered to all 21 million noncollege graduates.

These entrants will represent a wide range of abilities and aspirations, and they will leave from various points on the educational scale. A research project at the University of California at Berkeley attempted to determine the responsibility each level of the educational system has for the employability of its students. (22) The study identified the levels at which students left school and matched those levels

with a cluster of occupations in which students might reasonably expect to find employment. To analyze the point at which students withdrew and the number at each point, the research team assumed a sample of 1,000 students at the seventh grade and applied dropout and transfer rates from several research reports. The data indicated that students tend to leave school at three levels and enter jobs at corresponding levels.

Level I. Those with a minimum of vocational education:

<u>Number</u>	<u>Leave school as:</u>
290	High school dropouts
206	High school graduates not continuing
114	Lower division dropouts from colleges and universities
76	Dropouts from junior colleges
17	Dropouts from special adult schools
<hr/> 703	

Enter jobs categorized as:

Unskilled or semi-skilled work: machine and equipment operation, basic clerical and distributive jobs, skilled trades.

Level II. Those who have completed occupational programs at the junior college level, or have gained competency in collegiate upper division work:

<u>Number</u>	<u>Leave school as:</u>
26	Graduates of special adult schools
75	Graduates of junior colleges
62	Upper division dropouts from colleges and universities
<hr/> 163	

Enter jobs categorized as:

Semi-professional, technical, licensed occupations, complex clerical, complex distributive.

Level III. Those who complete four or more years of college:

<u>Number</u>	<u>Leave school as (or with):</u>
67	Graduates with AB or BS degrees
67	Graduate study experience
<hr/> 134	

Enter jobs categorized as:

Managerial or professional.

According to this study, about half of the students will enter adult life with a high school education or less. Twenty percent more who begin some type of post-high school edu-

cation will drop out before completing their objective. If it is assumed that educational institutions have the responsibility to send youth into the job world adequately prepared, then high schools have the primary responsibility for about seven out of ten students.

Thus, about 70 percent of the high school students may be the target group needing some type of vocational education at the secondary level. However, there are several factors which tend to reduce the number for whom it may be feasible to provide such preparation.

- The study reported census data to show that from 80 to 90 percent of the boys and 40 to 50 percent of the girls will seek employment. This would average out to about 65 to 75 percent of the Level I group who might be expected to join the labor force.
- Since only about 13 percent of the school-age group have had vocational education courses, it is obvious that many people have entered the work force and been successful without such training. Since business and industrial processes are becoming more technical, the number who can be successful in this way is probably being reduced. However, there apparently remain some number of jobs for which no specific education is required or for which training can easily be acquired on the job. Family-owned business is an example of this kind of situation.
- With the expansion of business and industry into those areas requiring more education and training, it may be desirable to attempt to reduce the numbers who enter the labor market at Level I and increase the number entering at Levels II and III. Trends in college enrollments are climbing rapidly both in actual numbers and in percent of high school graduates. The growth of junior colleges throughout the United States will certainly heighten this trend. Thus the reduction of Level I persons and the increase of those in Levels II and III is already going on.

Let us put together the research findings with the three qualifications just presented and re-estimate the proportion of students who might enter the labor market at the three levels. If the number of those completing college (Level III) were raised from 13.4 to 20 percent, and if the number completing

junior college training (Level II) were raised from 16.3 to 25 percent, this would leave 55 percent of the students wanting work at Level I, and thus needing vocational training in secondary schools. However, about one-fourth to one-third of this group (about 15 percent of the total group) will not enter the labor market or want vocational training. Thus, the breakdown of the group who will become available to the labor force in the future may look something like this:

Level III:	College graduates and above	20 percent
Level II:	Junior college and special school graduates	25
Level I:	High school dropouts, high school graduates, and junior college dropouts	40
	Those not entering the labor market or wanting vocational education	15
		<hr/> 100 percent

According to this analysis, high schools might expect to find 40 percent of the students enrolled in vocational education courses. One way to test this speculative projection is to compare it with current practice regarding the selection of students for vocational education.

Characteristics of In-School Vocational Education Students

Vocational school directors, high school principals, and state-level vocational educators who were visited by the writer were asked to describe the student group they were taking care of. The key question was: How does the vocational education student differ from other students?

Generally, four groups of students were identified and described:

1. *The college-bound.* In this group are two sub-groups: (1) those going into four-year and graduate programs for the professions and (2) those preparing for programs of two years or more for technically oriented occupations. Students were described as above average and bright, with

financial resources and an interest in college. Those interviewed estimated that 40 to 60 percent of high school students were in this group.

2. *The vocational education group.* These were described as the average-ability students who for reasons of achievement, interest, and finances are not going to college. They are also interested in preparing for work in high school. A few were regarded as college-bound students with a trade or other occupational skill as an avocational or temporary vocational interest (e.g., clerical skills to pay one's way through college). Also, a few below-average, dependable "good kids" were included. The vocational education group is estimated to be about 30 to 40 percent of the high school population.
3. *The potential dropouts.* These are the unresponsive and irresponsible, the disoriented, the low achiever, and the "goof off" and trouble-maker. In this group are 10 to 20 percent of the school population.
4. *The indeterminate group.* This category was not always identified. Its members have a wide range of academic and financial ability. Some of them are in the college preparatory course. Most, however, are in the general education sections of high school classes. Their chief characteristic is that they have not chosen or felt the need of choosing their vocational and life goals. Approximately 10 to 20 percent of the high school students can be classified this way.

Selection Criteria

The characteristics displayed by the vocational education group are, of course, no accident. In one sense these students are selected by vocational school directors and teachers. In another sense they select themselves, for interest in vocational education has been the primary criterion in high school. In recent years, since the number of student applicants has generally exceeded the capacity of vocational education facilities, other selective criteria have been added. These include prior course work in industrial arts or home economics as well as attitudes of workmanship. Within this framework some schools select students with the highest learning potential.

The criteria employed by two schools are listed below as examples.

A. A new area vocational center offering courses in twelve skilled trades. Agreement has been reached that the following factors should be considered in counseling a student to attend the vocational center:

- School grades: "C" average or better.
- Physical education records. These indicate attitude and the nature of cooperation without necessarily including ability as a factor.
- Attendance record. Because spaces are limited and expenses high in this specialized program, it seems unwise to counsel a student into the program if his attendance record is less than satisfactory.
- Counselor's recommendation. Because the counselor has ready access to school records, psychological test data, and citizenship reports, his recommendation is very important.
- The shop teacher's recommendation. Most of the students who have been in the school system for any length of time have had some shop experience. The opinion of the shop instructor should be a deciding factor in determining the future of a student in the vocational center.
- General intelligence scores of 100 or better are desired. In some cases a minimum of 90 is acceptable.
- Student interest. As nearly as possible, the student should feel a commitment to his selected trade program.

B. An established area vocational center offering courses in 13 semi-skilled trades and three service occupations. For each student, data are to be obtained from the following sources:

- Qualifying exam
- Intelligence quotient
- DAT results
- Personal qualities rating by teachers
- Medical report
- Personal interview impressions

Students are to be ranked according to the overall standing of their profiles, with students at the bottom being eliminated when necessary. In the trade areas, students need at least eighth grade reading and math achievement, plus ex-

perience in industrial arts or home economics. In the semi-skilled areas qualities like sincere interest, physical and emotional stability, ability to work congenially, and manual dexterity are important.

The importance of screening students to insure successful completion of the course as well as placement and success on the job was stressed by several vocational educators. One of them said, "Our programs would soon dry up if employers were not satisfied with our graduates. They wouldn't hire them and, with lower placement rates, enrollments would drop off."

The Image of Vocational Education

In addition to this sense of obligation to both students and employers, vocational educators seem to have quite a concern about "image." They feel that vocational education programs have too long been considered poor quality education and a dumping ground. Now, they say, with expanding programs, improved financial support, and public encouragement is the time to change the image. In one state which is emphasizing the establishment of area vocational schools, a state supervisor reminded his audience of the requirement that the annual state report to the Commissioner of Education contain a follow-up of graduates of vocational education programs. He said that no other educational program has such a requirement. "Success of our students is important, and careful selection of students is an important factor in that success," he said.

Perception of Vocational Education Students

During his visits to vocational schools the writer talked with several students at each school. Their reasons for taking vocational education seemed to group themselves as follows:

1. A marketable skill
 - a. To get a job these days you have to be trained.
 - b. If I have to go into the Army or Navy I'll have a skill.
 - c. When I go to technical school after graduation I'll have a headstart.

2. To be independent
 - a. I knew I couldn't afford college and, besides, I wanted to be on my own.
 - b. I wanted a car so I had to be able to fix one up and take care of it.
3. Interest
 - a. I've been interested for some time. I helped my dad wire a house, and later he gave me a radio kit.
 - b. Even when I was little I wanted to cook. So I thought I might as well learn how here.
 - c. My cousin (older brother or sister, uncle or aunt) was a draftsman (machinist, cosmetologist). It seemed like an interesting job and so I thought I'd like to learn how.
 - d. I worked on our radio at home a lot. Mother said I should learn how to do it right.
4. A desired alternative
 - a. I like to move around and work with things. In the other courses you have to sit all day.
 - b. Compared with some other electives like psychology or sociology, this is more interesting. I like to do things with my hands.
 - c. The office occupations course makes sense. It's practical. I couldn't see the value in some of the other courses, though I got A's and B's.
 - d. I wasn't doing too well in English.

Gradually the characteristics of these students seemed to form a pattern. Most of them had a clear picture of their occupational goal and felt their school work would help them. Nearly all of them liked the work they were taking. The specific nature of the material, the job orientation of the subject, the freedom of movement, and the self-direction possible were also factors in their liking vocational education.

Burr D. Coe, Director of the Middlesex County (New Jersey) Vocational and Technical Schools, filled out this picture. He said that over the years, as he worked and talked with vocational education students and studied their records, he had come to feel that the typical students in vocational education could be described as follows:

1. The spread of ability, based on IQ, is less than that of the high school population as a whole. The vocational pupils form a relatively homogeneous group.

2. Certain ethnic groups predominate; others are missing almost entirely.
3. Vocational students have strong drives for early economic independence and tend to marry young. Many hold part-time jobs while in school.
4. Parents and relatives are "working class" people from skilled and semi-skilled occupations. Family traditions in skilled trades are particularly strong. Few parents are college graduates.
5. Mobility is not great, graduates tend to seek jobs in the local area and stay there.
6. They tend to be followers rather than leaders. In comprehensive high schools the vocational students seldom rise to positions of leadership in student activities. In the self-contained vocational school they do, but they require a great deal of faculty guidance.

In comparison with other high school students, vocational students have less interest in and participate less frequently in extracurricular activities, including sports. They use the library less. They show less interest in such subjects as English, history, and music, and usually obtain their lowest grades in the academic areas. They have less drive to complete high school and earn a diploma, especially the girls. (9: 172)

Vocational education from its beginnings in this country has taken care of a relatively small group of students. It has provided the labor market with well trained persons, but has met only a small part of the market's needs. The programs have been few and have been directed toward specific occupations. Chosen by a combination of selection and self-selection processes, the students seem to have been well matched to the target programs and occupations.

Programs for Other Students

Public interest and public policy have given vocational education new targets—nothing less than the improved employability of all who can profit from vocational training. Furthermore, there is the possibility that *all* young people might profit from the orientation, the ways of involving students, and some of the content of vocational education.

However, if we greatly enlarge the target group, we must

face the fact that many of the additional students will be different from those who have typically been in standard vocational courses. Accommodating these other students will require changes in the definition of what vocational education is and the commitment to a vocational objective that is required of students. It will demand some realignment of relationships and responsibilities between vocational and general education. It will require additional programs providing orientation to the world of work. And it will require varying blends of the practical and the intellectual in vocational courses for different kinds of students.

Any move into new programs for all students may also reduce some of the social distance between vocational education and general education and result in a better public image for both.

If we look at each group of student types, we may see uses for some aspects of vocational education in all cases.

The professionally oriented. The study of the materials, processes, and devices used in various occupations as well as the study of occupational fields may help these students when they assume their professional responsibilities. For example, an outstanding student in physics might take special work in electro-mechanical technology, learning something of how to design, develop, manufacture, sell, and maintain equipment in this field. The competence he would gain might be helpful in the study and practice of engineering or even of advanced physics.

The post-high school technically oriented. Some prevocational courses and beginning technical courses might interest some students who might not otherwise have known or become interested in this kind of work.

The vocationally oriented. As more students enter vocational education, some may be less mature and less motivated. Modifications in programs which allow these students a wider occupational base and more transfer possibilities may be appropriate.

The indeterminate student group. Acquaintance with materials, processes, and devices used in occupations, as well as acquaintance with the occupational fields themselves, may help guide these students to a greater understanding of the world

of work and provide them a better chance to decide their future.

Persons with special needs. These persons, whether alienated, culturally deprived, mentally retarded, or physically handicapped, wonder or only faintly see how they can fit into adult life in any meaningful way. Their training may be the responsibility of several educational programs and services. However, vocational education would seem to be an appropriate medium for students with special needs to develop more involvement and more commitment to productive living.

IV: The Manpower Situation and Job Opportunities

AN EDUCATOR planning changes in vocational education must take into account such student characteristics as have been described in the preceding chapter. But he must also consider the labor market. He must know, for instance, of occupational fields in which there are manpower shortages, and he must be aware of those jobs which persons with meager personal resources and skills can enter. Therefore, using Department of Labor data as of February 1966, we look now to the manpower situation and outlook and to the educational implications of the situation thus revealed.

In February 1966 the unemployment rate reached a low of 3.7 percent. A year earlier it had been 5 percent. During 1965, total employment rose by 1.8 million, outstripping the 1.4 million growth in the available labor force. Fully as important as the size of the employment increase was its industrial and occupational pattern. In the private sector of the economy generally and in the goods-producing and related industries particularly, the expansion of employment was outstanding. This was in contrast to their lack of growth in the late 1950's and early 1960's. (See Charts 1 and 2.)

The goods-producing industries added close to a million jobs in 1965, over two-fifths of the total rise in nonfarm payroll jobs. The service and service-related industries continued to provide the bulk of the job expansion. Overall, they accounted for an additional 1.3 million jobs, 60 percent of the growth in nonagricultural employment during 1965.

CHART 1

Recent job growth has been spurred by the goods-producing and related industries, especially manufacturing and construction.

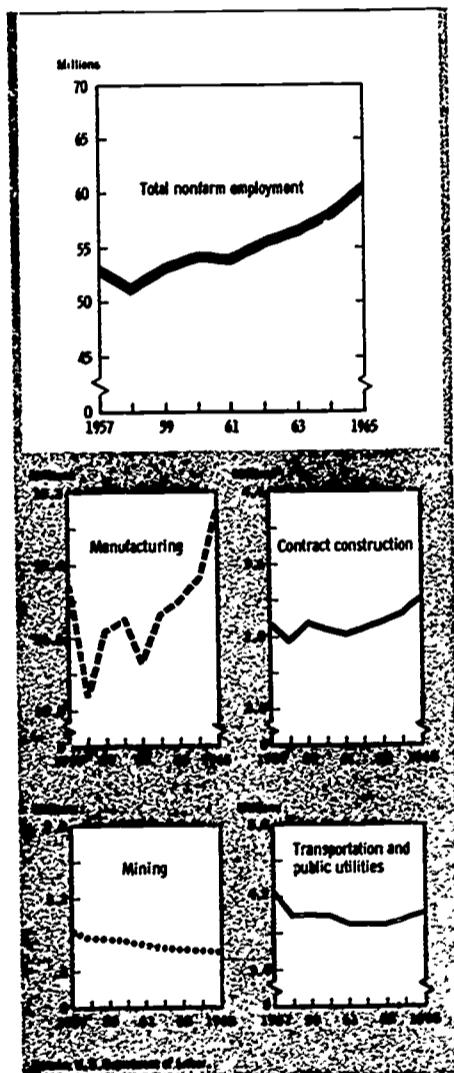
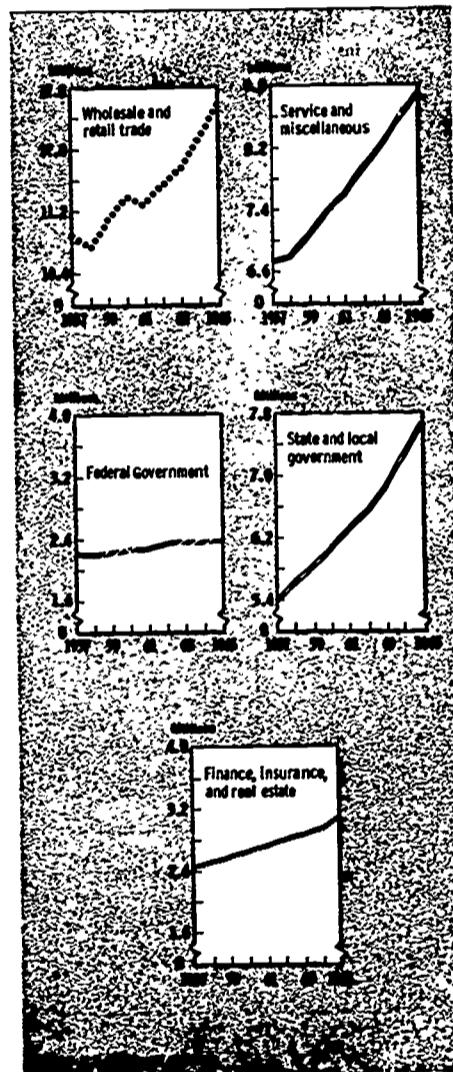


CHART 2

Employment in the service-related sector — except federal government — continued its sharp rise.



These advances, however, left unsolved some manpower problems. There were still 17 major areas in the continental United States in which unemployment was above 6 percent.

More than 650,000 people—one-fifth of the unemployed—had been out of work for 15 weeks or longer. One and three-quarters million “employed” persons who wanted full-time work had only part-time work. One out of every eight teenagers who were looking for work (half of them for only part-time work) could not find it. Negroes constituted one-fifth of the unemployed—double their proportion in the labor force. Two hundred thousand unemployed Negro teenagers were highly concentrated in poor neighborhoods. Furthermore, over three million household heads who were working full time were living in poverty.

The Manpower Outlook

From 1965 to 1970 the total labor force is expected to rise by over 1.5 million a year, an average annual increase nearly 50 percent greater than that of the first half of the 1960's and almost double that of the 1950's. The pressures to develop appropriate jobs and to match workers with existing job openings will be particularly critical in view of the large number of workers under 25 years of age who will be continuing to enter the labor force. Teenage and young adult workers (aged 14 to 24) are expected to constitute about 45 percent of the increase in the labor force between now and 1970. Assuming present trends in productivity, hours of work, and unemployment rate (about 3 percent), the Department of Labor estimates that the economy will have to grow at an annual rate of about 4.5 percent. The employment trends are summarized in Table II. Incidentally, the National Commission on Technology, Automation, and Economic Progress states that “if unemployment does creep upward in the future, it will be the fault of public policy, not the fault of technological change.”

Occupational projections (see Table III) reflect changes in industry. The fastest growing occupations will continue to be in the professional and technical fields, with clerical and service worker categories in second place. These gains are in part a reflection of an affluent society and of new programs in medical and hospital care and services to the disadvantaged. Eli Ginzberg, Chairman of the National Man-

TABLE II
ACTUAL AND PROJECTED EMPLOYMENT BY INDUSTRY DIVISION, 1965 AND 1970
(Numbers in thousands)

Industry Division	Actual Projected Change, 1965-1970			
	1965 ¹	1970 ²	Number	Percent
Agriculture	4,585	4,080	-505	-11.0
Nonagricultural industries, total ³	60,432	68,743	8,311	13.8
Mining	628	586	-42	-6.7
Contract construction	3,211	3,700	489	15.2
Manufacturing	17,984	18,882	898	5.0
Transportation & public utilities	4,031	4,106	75	1.9
Trade	12,585	14,195	1,610	12.8
Finance, insurance & real estate	3,043	3,194	451	14.8
Service and miscellaneous	8,903	11,097	2,194	24.6
Government	10,046	12,683	2,637	26.2
Federal ⁴	2,379	2,524	145	6.1
State and local	7,667	10,159	2,492	32.5

¹ Preliminary² Based on an assumption of 3 percent unemployment³ Data relate to wage and salary workers on establishment payrolls and exclude self-employed, unpaid family workers, and domestics⁴ Data relate to civilian employment only, excluding Central Intelligence and National Security Agencies

Note: Details may not add to totals due to rounding.

TABLE III
ACTUAL AND PROJECTED EMPLOYMENT BY MAJOR OCCUPATION GROUP,
1965 AND 1970
(Numbers in millions)

Major Occupation Group	Actual Projected Change, 1965-1970 ²			
	1965	1970 ¹	Number	Percent
Total ³	72.2	81.2	9.0	12.5
Professional, Technical and kindred workers	8.9	11.1	2.2	25.0
Managers, officials, proprietors, (exc. farm)	7.3	8.4	1.1	14.4
Clerical and kindred workers	11.2	13.2	2.0	18.2
Sales workers	4.7	5.3	.6	12.4
Craftsmen, foremen, & kindred workers	9.2	10.4	1.2	12.8
Operatives & kindred workers	13.4	14.2	.8	6.0
Laborers, except farm and mine	5.9	3.7	-.2	-4.0 ⁴
Service workers	9.3	11.0	1.7	17.7
Farmers & farm managers, laborers, & foremen	4.3	3.9	-.4	-8.6

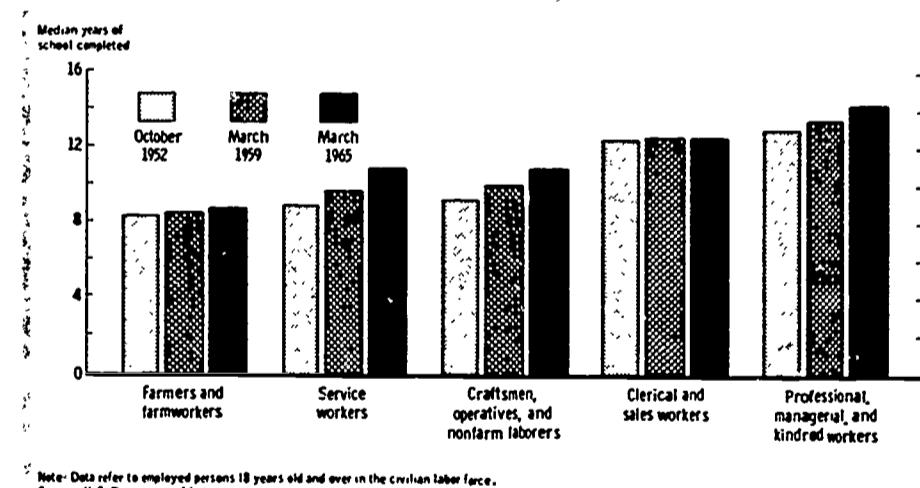
¹ Based on an assumption of 3 percent unemployed² Based on 1965 data in thousands³ Represents employment as covered by the monthly household survey of the labor force.⁴ Employment is projected at about the level of the past decade; however, because 1965 employment was unusually high, reflecting an abnormally sharp increase in manufacturing, the projected change from 1965 indicates an apparent decline.

Note: Details may not add to totals due to rounding.

power Advisory Committee, has said that we are now in a service economy. As new programs in the public and private sectors grow, the demand for managerial personnel is likely to expand. The anticipated expansion of trade should increase the demand for sales personnel, but changing techniques in merchandising may hold down some of the increases. Manual nonfarm occupations—craftsmen, foremen, operatives, and nonfarm laborers—have had a considerable upsurge in employment over the past few years. Employment of craftsmen is expected to increase at the same rate as employment generally. Farm workers are the only major group expected to have a significant decline in employment.

As the demand for workers has been going up, the educational requirements for employment have also risen. Chart 3 shows that almost every occupational group has shared in the general educational upgrading. This upward trend in part reflects the growing complexity of our technology. But it is also true that with the availability of a better educated labor force, employers have adjusted their hiring requirements upward. The high school diploma has become a common minimum requirement.

CHART 3
Educational attainment is increasing in
virtually every occupational group.



Implications for the Educator

From the analysis of the labor situation three generalizations can be made.

1. The fastest growing occupations are in the professional, technical, clerical, and service-worker categories.
2. Educational requirements for entry into all jobs are increasing.
3. There is a demand for trained workers at all levels. The unemployment rate of competent workers is very low.

Effect of High Employment

Of these three "facts" the one with the greatest immediate impact on educators responsible for program development in vocational education is the last: low unemployment and high demand for trained workers. Instructors and directors of vocational high schools with whom this writer visited all reported high percentages of placement in nearly all occupations. Many of their students have jobs or commitments prior to graduation. High placement rates make vocational education attractive to students. New courses, new programs, and new facilities have generally been successful. The need for skilled workers and student interest in vocational education creates a "bull market" atmosphere, and this makes vocational education attractive to state legislators as well as to educators, school board members, and others in the community. To summarize:

National policies and programs to reduce unemployment, to provide the country with trained, skilled workers, and to make training available to all who want it and need it have been helped by other national policies and economic conditions which have led to high business activity and employment and thus to a climate favorable to the expansion of vocational education.

Increasing Job Entry Requirements

The growth of jobs requiring more education and the increased educational requirements for entry into many older

jobs have two implications: First, as jobs become more technical, the training period tends to become longer and more complex and theoretical. Consequently, training programs tend to become more the province of post-high school technical institutes and junior and four-year colleges, and less the province of high schools. For example, one vocational school director said that a course in instrumentation had few takers because students, high school counselors, and parents in his area tended to feel that training of this kind was best taken after graduation.

In a study sponsored by the Santa Clara (California) County Office of Education it was found that job entry requirements were being upgraded in the county as a result of four factors:

1. "Increased use of computer and other automation devices in production, administrative, and clerical positions.
2. "A growing effort, by engineering psychology, to design man-machine systems to perform tasks that were previously unknown.
3. "Increasing percentage of persons seeking formal education through and beyond high school.
4. "The increase in numbers of young people seeking to enter the labor market for the first time." (38: 14-16)

These four factors, plus the industrial growth in the country, lead, says the report, to a need for an "essential creative redefinition of vocational education" in the high schools, adult education and junior colleges.

The tendency to upgrade job entry requirements has a side effect. While many jobs are becoming more sophisticated, many people are not. People with little education or with minimum skill potential are having a harder time getting jobs. Help for these people can be provided by:

- a. Restructuring jobs in occupational fields so as to permit increased use of subprofessionals and other assistants. The service occupations offer opportunities for restructuring jobs along a wide range of skill requirements.

- b. Eliminating artificial hiring specifications which are unnecessarily restrictive.
- c. Providing persons with limited abilities vocational education which leads into a restructured field of employment.

The field of health services is one in which job redesign has been going forward. Aides and technicians have relieved professionals of routine tasks. Efforts in this area were stimulated by the 1965 White House Conference on Health. Courses enabling people to work in health services at various levels are being introduced in a number of schools throughout the country.

Employment Opportunities Reported by States

The Vocational Education Act of 1963 continues a requirement that state plans for vocational education include analyses of the manpower needs and employment opportunities. In the Projected Program Activities Report for Fiscal Year 1966 developed by the federal Division of Vocational and Technical Education (42), findings of these surveys and analyses are summarized. They reflect the same trends as indicated nationally by the Department of Labor. Many of the employment opportunities listed by the states appear to be in jobs requiring training above what is normally high school level.

Knowledge of trends in the labor markets is, of course, useful in long-range planning of vocational education programs. At the local level, analyses and projections of these trends serve primarily as sensitizing devices. For example, knowing that health services are likely to expand, the school director may try to find out what kind of a market there might be for graduates of programs in this field. Knowing that the nationwide employment trend in agriculture is downward, a director might be cautious about expanding programs in farming.

However, the influences which actually move those in charge of vocational education to extend or reduce particular programs seem to this observer to be much more direct and personal. Advisory committees to the school, department, field, or trade, composed of representatives of business and

labor, were mentioned over and over again as being most important in the making of program decisions. (Factors of space, equipment, financial support, and supply of qualified teachers, while very important, are not considered here.) These people know the local market and the skill requirements needed for entry. They also hire the graduates. As one director put it: "The surveys are helpful for looking ahead, but most of my decisions are about the 'right now.' If we don't get immediate support from business and industry for cooperative training or placement of graduates, we have to close up the shop." Some directors indicated that they and their instructors kept up with the manpower needs of their area by attending meetings of the trade and business associations, keeping track of requests from employers, and reading the want ads in the papers.

Influences on Local Program Changes

Planning is also affected by other than local influences. National and state departments of vocational education as well as national, state and local associations, are active in keeping their colleagues and members up-to-date. These groups have stimulated schools to move into new areas. For example, programs for those with special needs and training courses for service occupations have been developed in some schools prior to the availability of definite jobs.

This general impression as to the influence of various groups on program choices is supported somewhat by other reports, such as the Santa Clara County report. Replies from 65 junior colleges to the question: "What technique do you use for identifying emerging occupations in your district?" indicated the following sources of information (38: 48):

1. Citizens advisory committee	37
2. Advisory committees in Department of Employment	23
3. Direct contact with industry	21
4. Area occupational surveys	21
5. Requests by business & industry	8
6. Newspaper information	6
7. Evening Division Advisory Council	5

8. Information from Chambers of Commerce, Boards of Trade, etc.	5
9. State Department of Education suggestions	3
10. U.S. Government publications	2
11. Follow-up reports from former students	2

Trends in New Course Additions

The Projected Program Activities Reports for Fiscal Year 1966 submitted by state directors contain indications of program priorities. New teachers needed, new courses to be added, and expenditures for equipment and facilities are the major topics.

A study of the report indicates that while new course offerings are planned in more than 40 vocational areas, the bulk of the expansion will be in the following 10 occupational fields, listed in order of greatest planned expansion. Because the statistical data seemed fragmentary, no figures are indicated. The letters to the right are: "A" for area schools; "C" for comprehensive schools; and "M" for schools in metropolitan areas. They represent the writer's estimate as to the kinds of schools into which most of the new programs will go.

Office occupations	A	C
Trade and industrial	A	
Distributive occupations	A	C
Home economics		C
Agriculture		C
Home economics—wage earning	A	M
Health occupations (mostly practical nursing)	A	M
Horticulture	A	M
Child care occupations		M
Agricultural mechanics	A	

A few generalizations, subject to many exceptions, can be made. The fact that traditional courses head the list probably means that vocational education is being made available to students in a greater number of places rather than to a greater range of students in those schools. In some cases, the expansion represents a more vocational orientation of existing courses. Area vocational schools will offer courses in occupations in which training costs are high and in which few students are interested or can qualify. It is uneconomical

for many schools to offer these courses. Area schools will be primarily trade and technical schools, with some offerings in newer fields. Schools in metropolitan areas seem to be devoting the most of their attention to providing additional courses for the potential dropout.

The Projected Program Activities Report indicates that many states are just getting underway with programs for "persons with special needs." Where such programs are beginning or are under way, courses to prepare less able students to enter simple skill jobs predominate. Work-experience programs are indicated as one resource being used. Vocational education preparatory courses (basic education and attitude training), counseling service, and programs for physically and mentally handicapped children are mentioned infrequently in programs for persons with special needs under the provisions of the Vocational Education Act of 1963.

V: Curriculum Innovations and Issues

IN VOCATIONAL education the job is the payoff. Thus, vocational educators often express the idea that evaluation of their work is quick. In no other area, they say, does the dialogue start so quickly between school and community about the quality of instruction. Employers have come to expect, need, and demand that would-be employees come equipped with the skills needed for success in entry-level jobs. Workers and would-be workers have felt the effect of technological changes on the requirements for continued success. Government officials, the press, and many segments of the public have come to expect that vocational education will help disadvantaged persons find and hold jobs. Vocational educators, given increased responsibility and money, are faced with the task of bringing order out of these demands and achieving the results expected by the several publics.

The need to modernize their programs has caused vocational educators to restudy instructional goals and methods and curriculum-development procedures. During his conferences with vocational educators in several parts of the United States the writer asked about their objectives and the problems they were having in developing new programs, particularly where differences in values and experience caused issues to arise. Surprisingly, in this time of "boil and double boil," there seemed to be rather general agreement about basic goals and curriculum development. Briefly, the main objectives, problems, and questions appeared to be these:

Objectives of Vocational Education at the Secondary School Level:

To enable in-school youth to:

- a. Develop entry-level job skills
- b. Develop habits and attitudes which contribute to success on the job
- c. Know the organization and structure of a vocation
- d. Know how to enter and progress within the vocation
- e. Develop skills and attitudes which facilitate adjustment by the student (worker) to:
 - (1) changes in technology and job requirements
 - (2) changes in his aspirations

Problems of Curriculum Development in Secondary School Vocational Education

- a. Keeping curricula and courses of study up-to-date
- b. Providing effective instructional methods and media
- c. Motivating alienated, disadvantaged youth toward work
- d. Evaluating the effectiveness of the program
- e. Providing counseling and placement service
- f. Obtaining and developing qualified teachers and leaders
- g. Achieving effective communication and cooperation among:
 - (1) general education and vocational education teachers and administrators
 - (2) different groups and levels of vocational educators
- h. Achieving better public understanding of the purpose and place of vocational education.

Questions Concerning Vocational Education Curricula in Secondary Schools

- a. What is vocational education?
- b. How specific should vocational education be?
- c. What is a desirable relationship between skills, underlying principles, and related knowledge?
- d. What is the place of job practice or "live work" in relation to exercises and simulation?
- e. What pre-vocational experiences are desirable?
- f. What is an effective relationship between preparation for the world of work and preparation for living?
- g. How much flexibility (entry, branching, cross-over, etc.) is feasible?
- h. How and by whom are these issues to be resolved?

To indicate how vocational educators are attempting to achieve the goals, meet the problems, and resolve the issues, new programs and innovative practices will be described. The material emphasizes curriculum content and method; little attention is given to procedures of curriculum development.

The MIT Study of Occupational, Vocational, and Technical Education

"What patterns of education will best prepare American youth for useful, satisfying, and gainful work at the termination of formal schooling?" This is the question to which a hundred or so participants in the "Summer Study of Occupational, Vocational, and Technical Education" addressed themselves in 1965, at the Science Teaching Center, Massachusetts Institute of Technology. Membership was drawn from a wide range of persons interested in attacking the problem. Early in the group's study there "emerged the general agreement that any significant innovation in and improvement of occupational and vocationally oriented education should be aimed not merely at current vocational programs, but more importantly at the great numbers of students who fail to succeed in college preparatory curricula, and are not engaged in standard vocational education. Thus it became evident that any fundamental attack on vocational education would of necessity be directed at all education." (16)

The participants sorted themselves into five working groups:

1. Design group: to consider the design of an innovating educational system and the teaching of design in school.
2. Teacher Education group: to examine the salient features and factors in incorporating teachers into large and continuing change.
3. Materials group: to look at materials, processes, and systems as subjects for study.
4. Educational Goals and Structure group: to consider the question, "What overall educational goals and structure can best provide opportunities for all youth to develop and achieve suitable vocational objectives?"

5. "Gray Area" Student group: to find ways and means of reorganizing school operations to make possible effective educational opportunities for non-college-bound and non-vocational (current program) students.

Six major recommendations for action emerged from the work of these groups. Five of these can be stated very briefly. It was proposed that:

1. Teacher education projects be initiated with the aim of generating competence in cooperative group teaching with the new materials and attitudes that were proposed.
2. A national system of multipurpose educational research, inservice training, and curriculum development centers be established.
3. Educational management institutes be established to assist in the preparation, upgrading, and updating of school administrators.
4. Special programs for the development of transitional educational patterns in deprived areas be started.
5. Projects be undertaken to strengthen and broaden the apprenticeship programs of labor, industry and management.

The sixth recommendation, regarding a new curriculum design, was especially striking and will be discussed at greater length.

... that there be initiated a program of development of new curricular patterns and instructional materials for all students beginning with the start of junior high school. In contrast to the traditional overwhelming dependence on the written and spoken word as the road to learning, these new patterns and materials propose to utilize the potential of experimental and investigative activity as a springboard to the acquisition of skills, to understanding, and to the development of the ability to think. The intent of this approach is not only to open a new vocationally oriented educational path for those who have not benefited from the traditional curriculum, but also to enrich the learning of those who flourish under it. The point of entry (junior high school) recognizes the potential of existing curriculum reforms, such as those embracing elementary science, mathematics, and social studies, that are now being introduced at the elementary level. (17:6)

This proposal to modify both general and vocational edu-

cation at the junior and senior high school levels has four thematic elements.

First, the proposal seeks to strengthen the manipulative, non-verbal aspects of general or academic education and to strengthen the intellectual (abstract) elements in vocational education. It is proposed that all students be given the opportunity to study and manipulate materials, processes, and systems—to "poke, pry, mess with, melt, pull apart and put together all the vital, wordless things so as to discover their characteristics." Conversely, vocational education would be improved by enabling students to make more generalizations and abstractions on the basis of their operational activities.

Second, the proposal seeks to emphasize investigation as a method of learning. "Project-type, goal-oriented processes requiring personal investigative involvement of students" add considerable stimulation to education. This way of learning offers students a method of solving other problems and of making the transition from learning how to do something to understanding what they are doing and then to the broad principles related to the activity.

Third, the proposal seeks to add vocational learning as one of the common learnings along with language, mathematics, social studies, science, art, music, literature, and health and physical education. Study of the world of work is to include processes and organization of business, the relation of technology and society, job opportunities and entry requirements, and some career planning.

Fourth, the proposal suggests a design to implement the three major ideas. Built into the design are beliefs that high school education should no longer be considered terminal; the new vocational education should be in each student's plans; it should be possible for students to switch back and forth between college preparatory and specific vocational education programs; programs should vary from student to student—some having a manipulative bias, others an abstract, symbolic bias; programs should be general and exploratory in the beginning and become more concentrated in the later grades; and intermingling of students from different programs should be encouraged.

Implementation of these concepts was seen as requiring a

comprehensive secondary-school program beginning in the seventh grade. Post-high school programs should also be designed for students going to work, to occupationally oriented institutions, or to liberal arts and professional colleges. Students are to be organized in blocks of 125, working with a team of teachers and scheduled during a week into both heterogeneous and homogeneous groups. A learning center—a shop laboratory for interdisciplinary investigations—is to be available for each block of students and teachers. The report contains diagrams as to how these ideas can be organized. (16)

This recommendation for a newly designed curriculum devotes its major attention to what many vocational educators call *prevocational* education experiences. Vocational education has traditionally emphasized specific training for employment in a recognized occupation, and the Vocational Education Act of 1963 explicitly states that to receive federal support every student "will have an occupational objective." The MIT proposal, on the other hand, is more concerned with those experiences which build a background for vocational choice and training. Prevocational experiences are seen as an important concern of elementary as well as secondary schools. Further, the proposal implies that high school level vocational education should be broad based, with more conceptualization to allow for flexibility and future change. Specific preparation for a particular occupation, it implies, might better be left to post-high school institutions.

In the MIT Summer Study report there is a separate recommendation regarding programs for the wavering student (the potential dropout) and the actual dropout. For these students it recommends a program of early identification, increased guidance service, and work-study experience with heavy civic and community involvement. This emphasis recognizes the apparent need of these students for early gainful employment.

It is the opinion of the writer that programs preparing students for a specific occupation cannot be completely eliminated in secondary schools, for there are young people for whom getting a job or being a cook or shoe repairman,

dead-end as this may seem to some persons, is the overwhelming motivation for staying in school and for achieving some identity and purpose in life. Educators need to remember that the Act of 1963 encourages the extension of vocational education to all youth, from whatever circumstance they come, and that curricula and systems will need to be designed to accommodate the range of student differences. No doubt experience with this proposal and others will give answers as to how and at what point vocational education should become specific for the various kinds of students in school.

Pretechnology Programs

Ideas closely related to those above have been tried out for a few years at schools in and around San Francisco. A real attempt has been made (1) to design high school vocational education in such a way that transfer to a variety of post-secondary programs would be comfortable and (2) to add vocationally oriented elements to general education courses.

"Richmond Plan." An experimental pretechnology curriculum was first tried out in two Richmond, California, comprehensive high schools. The project sought to employ the academic high school for effective vocational education. Beginning in 1962, the program was expanded to 10 other schools in the area, under the direction of the Cogswell Polytechnical College. In addition, two public junior colleges have been assisted in revising their programs to serve pretechnology students after high school. The program seeks to dovetail technical and academic subjects into a natural relationship, to use a shop program to dramatize the relationship between theory and practice, and to apply such new techniques as team teaching and programmed instruction. It consists of five major courses in the 11th and 12th grades: English, physics ($1\frac{1}{2}$ years), chemistry ($\frac{1}{2}$ year), mathematics through trigonometry, and technical laboratory (an integrated shop course including drafting). Students take these subjects as a group but mix with other pupils in the high school for social studies and physical education.

As an example of how the subjects are coordinated to re-

inforce each other, the study of heat taught in the physics class is related in mathematics instruction to first-degree equations (necessary for linear expansion), supported in the laboratory by the construction of apparatus with which to conduct heat experiments, and followed in English by oral and written reports on the subject.

The program was designed for students not attracted by college preparatory courses even though possessing the capability of succeeding in them. The participants have mechanical aptitude but range widely in intelligence. Many were considered poor students, and some had been identified as potential dropouts.

San Francisco State College has a grant from the Ford Foundation to help other schools in the area, through workshops and inservice training for teachers, to institute programs similar to the one described. As a part of that program the college gathered information from teachers and students as to how they saw the program. From this survey the following conclusions were drawn:

The data suggests that teachers and students have a high positive perception of the pre-technology program. Students are generally responsive to the program and inclined to view favorably the intent and efforts of their schools and teachers. The program is not viewed by non-pre-technology students as a dumping ground or a program for dropouts. Rather, it is seen as a program for students much like themselves. On the basis of questionnaire responses, there seems to be a general positive perception and acceptance of the pre-technology programs by non-pre-technology students. Teachers feel they are involved in a challenging, demanding, and satisfying program. It appears that there is a closer relationship between teachers and students, and students find their experiences in this program to be more rewarding than other programs.

The data seem to indicate the following problem areas: the need for additional time for teachers to coordinate their curriculum; a lack of understanding by non-pre-technology students, and in some cases, students, teachers and counselors (both in and out of the program) to define and understand the purpose and scope of the pre-technology program and what it leads to; and the lack of necessary coordination between schools, and between teachers on planning, presentation, and assessment. (33)

Project FEAST. In the "Richmond Plan" pre-engineering was chosen as the area for experimentation because of generally lengthening training periods resulting from the increasing complexity of the field. It was thought a pre-engineering program in high school would enable the more complex subjects to be taught in post-high school institutions. However, the idea of coordinating vocational and general education courses in such a way as to provide lead-on into post-high school programs is also being tried in a less complex field. The training of persons for careers in hotels and restaurants is called "Project FEAST" (Food Education and Service Technology). The two-year program, directed by the City College of San Francisco, includes:

11th grade

Food Laboratory and Cafeteria Work	2 hours
Food English	1 hour
Food Business (typing, arithmetic, accounting)	1 hour
Social Studies	1 hour
Physical Education } with other students	1 hour

12th grade

Food Laboratory (1st semester)	2 hours
Outside work experience (2nd semester)	2 hours
Food English	1 hour
Elective (Business or Business Math)	1 hour
Social Studies	1 hour
Physical Education	1 hour

Three choices are open to graduates of this program:

- Food service programs in junior colleges
- Hotel and restaurant management programs in four-year colleges
- On-the-job training in local hotels and restaurants

Labor and management representatives, who serve on the advisory board, are helping to place students in suitable positions.

Plans are being made to expand the concept into such areas as biomedical technology, information or library technology, business or commercial services technology, and electronics technology.

Rationale of Pretechnology Programs. Pretechnology programs have emphasized the "occupational field" as a motivation device and the commonalities of a number of subjects to provide both unity and transferability for students. Attention is also given to the ways in which students are involved with the content and experiences of the program. Too often, instruction in typical school situations, say these experimenters, emphasizes inventory kinds of learning, which frequently result in inert knowledge. Instruction in these projects, on the other hand, emphasizes a transactional type of learning in which the student *does something* with facts, ideas, materials, and relationships, and these in turn do something to the student. The student is placed in problem solving situations and asked to abstract and generalize from the experience. Learning is focused on understanding basic principles through a process of discovery. Students are made aware of this process so that understanding and practice in this way of learning will foster further development in a variety of subjects and situations.

Exploratory Vocational Education.

How soon should vocational preparation begin? Robert Worthington, Assistant Commissioner of Education, Vocational Division, New Jersey State Department of Education, said in a recent speech that a program of vocational preparation should be organized that would be coordinated from kindergarten through junior and senior high school or adult schools and colleges. Emphasizing the elementary school, Dr. Worthington said:

Prior to the time a child selects a particular area of vocational endeavor he should explore a broad range of activity. These broad exploratory experiences enable him to identify his own interests, talents, and abilities. This kind of self-knowledge is invaluable in making a satisfactory selection of one's life work. . . . Industrial arts activity introduced to the child at the kindergarten level and extended to the middle grades can expand the spectrum of experiences and greatly increase the child's opportunity for exploration and discovery.

Introduction to Vocations. A course entitled "Introduction to Vocations" has been introduced in a number of New

Jersey high schools. Generally, it is a one-period-a-day course for ninth-grade students. In addition to being given information regarding the education and training needed to work in various occupations, students are "cycled through" the industrial arts, home economics, business education, and science laboratories for manipulative, exploratory experiences.

Career Survey Program. The Pittsburgh schools have also developed an exploratory "Career Survey" to provide information and experience about the "World of Work" upon which a student can base a more intelligent decision in later years. In the middle school the survey will provide a sequence of experiences in which all students explore the full range of careers in technical fields, the professions, fine arts, and so on. Though no specialization is intended, the depth of the exploration can vary from student to student as determined through evaluation and guidance. Subject fields such as home economics, business, and industrial arts have been modified to fit into the career survey concept and to relate to the world of work as it exists today. Exploratory experiences are also emphasized in the ninth and tenth grades of the comprehensive high schools. While all students in these grades are enrolled in regular academic courses, their elective opportunities include courses relating to "families of occupations." From this basis some students in the eleventh and twelfth grades go into skill-centered training, while others take an academic program. (31: 3-4)

Both of these last two programs and others like them tend to break down some of the earlier separation among vocational guidance, industrial arts, and home economics. Typical experiences of these courses are melded and extended up and down school curricula to enable students over a longer time to see and to experience in an exploratory way the world of work and the path they may want to take into it. All such programs tend to wrench some of the standard definitions out of shape, but, hopefully, to the students' benefit.

The high school student who commits himself to preparation for a vocation will enter a program that has to be adjusted to fit his previous schooling, a program that also has to provide for other student needs and goals beside the

vocational one. For efficiency and effectiveness many of the courses he takes will also be taken by students in other vocational fields. Finally, it has to be acceptable to the student and to his employers or post-high school instructors. That is to say, the design of the program, its time allotments, and its place in a four-year high school program represent a compromise—a resolution—of several demands.

Vocational Curriculum Modifications

Schools revising their vocational education programs or moving into vocational education for the first time seem to be offering these courses primarily in the eleventh and twelfth grades, with a time allotment of five half-days a week. This means that some schools which have had vocational education in the ninth and tenth grades are dropping those courses or are substituting exploratory vocational guidance or an occupational core course in these grades. This permits students to obtain both an academic diploma and a salable skill.

Most of the students with whom the writer talked held both goals equally important. Their vocational courses were electives, taken in addition to the subjects required in their total school program. The half-day arrangement has come about partly because of tradition and partly because, where students travel from one school to another for vocational courses, it is a feasible arrangement. Some schools are reducing the importance of time as a factor; that is, a student remains in the vocational program until he has attained the competence needed. One person may take a year and a half to complete the program while another takes two and a half years.

The degree to which general education supports the vocational education needs of students varies greatly, and so does opinion on the degree to which it should be modified to do so. In a number of schools the subject had apparently not been discussed. This was particularly true in those situations in which the student went to his home school for general education and to an area vocational school or center for vocational education. Teachers and administrators of each school sometimes indicated improvements they would like to see in the programs of the other, but apparently the confer-

ences they held centered on administrative and guidance matters and not on curriculum change. Principals of comprehensive high schools said teachers of all departments attended the same meetings and conferred about curriculum coordination as well as administrative matters.

In full-time vocational schools the students in a particular occupational field are together in English, science, and mathematics classes. These subjects are modified to fit the interests of these students. English is sometimes called "communication skills" to indicate the areas emphasized. Whether or not such modification is desirable probably cannot be answered without reference to specific students and programs. However, how schools can effectively accommodate the vocational, citizenship, cultural, and personal needs of students is an important question.

The Grouping of Curricula

Particularly in larger districts which are offering increasing numbers of courses to wider ranges of students, schools are attempting to coordinate the various curricula. One effort is to organize courses according to the ability of the student and the complexity of the occupation for which training is offered. Pittsburgh, for example, has organized its vocational curricula into three groups: the Occupational Core, the Vocational Core and the Technical Core. Cleveland has revised its technical and vocational programs into a similar pattern. Each of the Pittsburgh curricula has its distinguishing features:

Occupational Core

1. For job areas classified as semi-skilled and service.
2. Reading, writing, basic arithmetic should be stressed through the tenth grade. The tendency to drop out is given careful attention and rectified whenever possible.
3. Students entering service occupations are enrolled in shops where emphasis is placed not only on the skills required, but also on employment attitudes, involving traits such as self-discipline, learning to cooperate with fellow workers, respect for property, and concern for safety. Those entering semi-skilled occupations should take exploratory work

in industrial arts and then concentrate on an area of interest. Some work experience should be included in the training.

4. High school graduation is encouraged but not required.
5. Sample occupations: food service, clothing, maintenance worker, nurse's aide, child and geriatrics care, assembler, equipment operator, furniture repair, gardener, etc.

Vocational Core

1. For skilled trade and industrial areas mostly.
2. Students entering this core should take exploratory work in industrial arts during the junior high school grades and then concentrate when a particular interest has been determined.
3. Reading, writing, arithmetic, history, and social studies are stressed through the tenth grade. Specialized work such as technical writing or combination mathematics (according to field of specialization) is included.
4. High school graduation is encouraged for the majority of this group.
5. Sample vocations: auto mechanics, refrigeration and air conditioning, appliance maintenance and repair, stenographer, office machine operator, sales clerk, advertising layout.

Technical Core

1. For semiprofessional or technical fields.
2. Basic work through elementary and junior high parallels the academic core. Exploratory work in industrial arts is included.
3. First year of core includes study in technical English, related mathematics, drafting and blueprint reading, and combined physical sciences. The remainder of the time is spent on vocational specialization.
4. High school graduation is expected and further schooling including four-year college work is possible. For some of the vocational and most of the technical courses, a thirteenth and fourteenth year have been added to the curriculum to enable students to complete the course.
5. Sample occupations: design draftsman, nucleonics technician, computer systems programmer, tool and die technician, technical writer, dental hygienist. (12: 59-63)

Detroit has organized its vocational education program into four "paths," each for a different level of students and occupations:

1. The science and engineering path: for the best achievers, who receive a maximum of theory and demonstration (one period a day for four semesters).
2. The technician path: for good students, who have half-time theory and demonstration and half-time shop or laboratory work (two periods a day in 11th and 12th grades).
3. The trade path: for average students in a standard trade course (three periods a day in 11th and 12th grades).
4. The occupational path: for below-average students. Programs are individualized (for 4 to 8 hours a day) and entered whenever the student appears to be an imminent dropout. (43: 25-27)

Cluster Approaches

The "cluster" concept is aimed at the development of skills and understandings related to a number of allied fields. Students trained under this approach are prepared to enter a family of occupations rather than a specific occupation. This concept is being developed in a number of cities. The clusters, based on local census data and other occupational analyses, vary from city to city.

Galaxies. Detroit has organized its curriculum into "galaxies." The basic premise of the galaxy approach is that all of the 40,000 separately identified jobs can be organized into four fields characterized by similar knowledge, manipulative skills, and attitude requirements. The four major fields identified by Detroit are materials and processes, visual communications, energy and propulsion, and personal services. After exploratory work in the seventh through the tenth grades, a student studies in one of these four fields.

Career Areas. Gary, Indiana, has revised its vocational-technical education program around ten occupational clusters. Occupations are grouped according to common threads, as follows:

1. Building construction and maintenance: building trades;

custodial and domestic service; furniture, fixtures, and woodworking

Common thread: Physical construction involved in original structure, including fixtures, and in subsequent care of these.

2. Business and commerce: distribution, office management and supervision, transportation
Common thread: Contact with the public in promoting, distributing, accounting, and reporting.
3. Communications: graphic arts, performing arts, transmission, writing
Common thread: Printed, written, pictorial, diagrammatic, dramatic, and oral means of conveying ideas and information.
4. Extractive industries: agriculture, petroleum and mining, pulp, paper, paper products
Common thread: Production and/or conversion of material resources found in the earth or produced therefrom.
5. Health and personal services: food services, laboratory, personal care
Common thread: Care and improvement of personal health, appearance, nutrition, and general well-being of people.
6. Marine trades
Common thread: Construction and operation of ships and boats of all sizes and their maintenance.
7. Mechanics and metalworking: machining, fabrication and finishing, foundry, forge and primary metals, mechanics—repair and service
Common thread: Metals of all kinds, sizes, shapes, types, alloys, and finishes. Hand, power, and machine tools. Repair and maintenance functions.
8. Protective services: fire, police, watchman
Common thread: Protection of people and property.
9. Technology: electro-chemical, mechanical
Common thread: Combination of applied science, mathematics, design, mechanics and instrumentation.
10. Textiles and leather
Common thread: Various kinds of fabrics, leather, fur, and findings.

Job Families. The Quincy, Massachusetts, schools are engaged in a curriculum development project funded by the U.S. Office of Education based on training in eleven major occupational areas. Such ideas as job-task and behavioral-performance analysis and individualized instruction are also being tested.

1. Business education: secretarial, clerical, bookkeeping, sales
2. Computer data processing: equipment operators, programmers
3. Electro-electronics: electrical installation and repair
4. Foods preparation: food service and processing
5. General piping: plumbing, pipefitting, refrigeration
6. General woodworking: carpentry, patternmaking, boatbuilding
7. Graphic arts: painting, commercial art, drafting
8. Health occupations: medical assistants, personal care
9. Home economics: homemaking and home services
10. Metals and machines: sheet metals, machinists, foundry
11. Power mechanics: auto body, auto mechanics

A research team from the University of Maryland is also analyzing the cluster concept. As part of the study the team is identifying the entry-level task skill requirements for each occupation in the areas of communication, measurement, mental and physical dexterity, mathematics, science and information. After an analysis of the commonalities in the cluster, instructional guides will be prepared. Three of their clusters and related occupations are:

Metal fabrication and forming: welder, machinist, sheetmetal worker

Construction: carpenter, mason, plumber, electrician, painter

Electro-mechanical installation and repair: business machine serviceman, home appliance serviceman, electrical utilities serviceman (26)

Standard Vocational Education Courses

Current Practices. Standard programs prepare students to enter a particular occupation, usually in a trade, industrial, or service field. Emphasis is on learning the skills of the

trade, which are usually organized into a definite and pre-determined sequence of units. A fifth to a third of the instructional time is spent on related theory and principles and on job attitudes. A course in industrial arts plus a presentation to students and parents of the program of the vocational school or department are generally the only formal orientation students have to the world of work and to vocational education prior to their entrance into the vocational program. The function of guidance service is generally to facilitate entrance into vocational education, but it seems to play a small role in the decision-making process of most students.

Related Skills. The standard vocational education curriculum has been criticized by many people for its concentration on specific skills of a trade rather than on the more abstract and academic elements of many modern occupations. George Arnstein has pointed out the importance of related skills of blueprint reading, mathematics, record keeping, and guide-book reading that workers now need to know:

A good case thus can be made for stressing, as a part of the vocational sequence, those skills which are likely to be useful for the longest period of time and over a period of change. Conversely, the manual and manipulative aspects of the occupations may be of lesser importance. (1: 61)

When vocational teachers, and in particular instructors in trade and industrial education, were asked what relationship they saw between vocational education and general education, they said that communication and computational skills and physical science were important. Students were screened out of many of the courses if they had low achievement levels in these subjects. These teachers said, however, that many of their students, when they entered the vocational course, did not place much value on these academic subjects, so these instructors built into their courses simulations of on-the-job situations to point up the importance of the more general skills. One instructor of auto mechanics said that after a student had completed his first "live" project he would ask the student to prepare the cost estimates and the bill for the customer and be ready to discuss with the customer what was done and why. He also said that giving a

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student a repair manual was a good way to put across the importance of proficiency in related skills.

These comments by vocational education teachers and supported by students highlight something that educators sometimes forget when they plan curriculum sequences and emphases according to what is traditional or what seems logical to a curriculum designer: the perceptions of students. How do *they* see the relationship between vocational education and academic education? For some of them the sequence in motivation goes something like this:

- a. I need or want a job; or, I want to be a carpenter (or some other craftsman);
- b. I need the training to get and hold such a job;
- c. In order to be successful in my classes and at work I need to know the related scientific principles and the related competencies, and have some human relations skill.

Thus, even though the criticisms of Arnstein and others are well taken, the influence and importance of work orientation should not be undervalued. Especially for those individuals who have been nonentities in school and in the community, an opportunity for success and for identity with a field of work seems most important.

Advisory Committees. This investigator also asked vocational teachers and directors whether they contemplated any changes in the structure of the courses. Did they feel that the courses were too narrowly focused and that too much time was spent on job skill practice? Those with whom he talked were of the opinion that their courses were appropriately designed and cited the high placement rates of their graduates. They also indicated that their courses were planned after repeated meetings with advisory committees composed of representatives of management and labor in each field.

Directors of vocational schools and programs were also asked whether they ever included people like sociologists, psychologists, or political scientists to represent the students' non-occupational roles. None of the people interviewed had such a person on an advisory council. Because of the influ-

ential role played by these local and state vocational advisory committees, their membership seems crucial to the development of vocational education.

Attitudes of Students. Students were asked how they liked the work they were doing. All said they liked it. Most of them showed their interest by their attention to the job and their reluctance to be interrupted. When asked why they liked the class, they mentioned a longtime interest in the field, the satisfaction of doing "live" or productive work, the fact that they were preparing for entrance into a particular occupation, and the relaxed relationship with the teacher and other students. They also liked the ratio of bench work to theory. While usually preferring the skill work, they also said that "Unless you know the theory the practical work doesn't make much sense." Advantages in this kind of instructional program seem to be (1) the clarity of the goal, (2) the transactional involvement of the student with his subject, and (3) the close relationship between student and teacher where classes are relatively small and class periods are relatively long. Modeling and counseling would seem to be easy in this kind of situation.

Follow-up of Students. The question still remains, however, whether students with this kind of instruction will do as well after they leave school and go to work. One answer to this question was made available in 1965 when the American Institutes for Research released a preliminary report of their nationwide follow-up study. The study surveyed the post-high school occupational and educational experiences of 10,000 vocational and 3,000 academic course graduates selected from 100 schools located in 38 states. It showed that after two, six, and eleven years, the vocational graduates had greater accumulated earnings, greater employment security, and greater job satisfaction than the general course graduates who did not go on to college, and that their job mobility was comparable. Also, the vocational course graduates had found full-time jobs substantially sooner than the general course graduates. (14)

Apparently, at least with respect to their occupational success, vocational education was a good choice for these

10,000 students and others like them. Since these students came from that segment of the school's population which chooses such education, they may, of course, have had some personal characteristics which set them apart from other students. The same kind of vocational education might not have been as appropriate for other students with different backgrounds, abilities, and interests.

New Courses for More Occupations

By freeing the field from some of its former restrictions, the Vocational Education Act of 1963 created the opportunity for almost an unlimited range of courses to be offered. Programs may be offered in any occupation in which there is a need for trained workers and a supply of students. This opportunity plus the emergence of new kinds of jobs have resulted in a variety of new courses.

The traditional vocational fields are developing courses for jobs whose skill requirements range from simple to complex. Agriculture, in which there is a decreasing demand for farm workers, is giving increased attention to farm-related occupations such as the processing and marketing of farm-related products. New programs include training for farm equipment mechanics and partsmen, as well as floriculture, horticulture, and landscape architecture workers. In distributive education highly specialized courses have been designed for specific groups such as deliverymen, service representatives, and stock clerks. New courses in office occupations include a wide range related to data processing plus those for specialized positions such as rate and reservation clerks and cashiers. Some of the more novel courses in trade and industrial areas provide training for musical instrument maintenance, office machine repair, tape-controlled machine operation and programing, and highway construction assistants.

The home economics area, which has had and still has homemaking as its major orientation, is now finding wage-earning home economics popular. A wide array of courses are being offered in food service, food preparation, clothing design and service, child and geriatric care, and hotel, motel, and institutional service and maintenance occupations.

Dorothy S. Lawson has outlined the differences between home economics for homemaking and employment. (25:35)

DIFFERENCES IN TWO ASPECTS OF HOME ECONOMICS PROGRAMS

<i>Home Economics for Homemaking</i>	<i>Home Economics for Employment</i>
Total curriculum is broad in scope and content.	Curriculum is based on job analysis of specific occupation.
Attitudes and behavioral development necessary to strengthening family well-being are stressed.	Emphasis is placed on the development of attitudes and behavior necessary to secure and hold a job.
All students are accepted because of the belief they can benefit from the program.	Qualities and aptitudes are the basis for selecting enrollees in a specific job-oriented program.
Marriage and maintaining a home are common to practically everyone, so programs fit in all communities.	Programs are established only when evidence shows sufficient job opportunities are available for placement of trainees.
Counseling is most valuable in development of personal and family values.	Vocational counseling service is necessary to help the teacher determine needs, employment opportunities, and placement of students in the most satisfactory program.
Advisory committees have been "recommended" but not required.	The establishment of a local advisory committee helps to determine work available and to advise and evaluate the specific emphases of the training program.
Immediate evaluation of programs in home economics is difficult.	Evaluation is in terms of performance and the ability to get and hold jobs.

Multiple Field Programs. Courses for some occupations cut across several traditional vocational education areas. In such cases instruction calls for a team approach or at least for a series of teachers from more than one field. Mary Lee Hurt gives some examples of cross-field programs. (21:221-225)

- In one county in Massachusetts students preparing for farm-related businesses such as those selling agricultural supplies and equipment, food manufacturing and supply firms, or garden centers and florist shops take cross-field courses in agriculture and distributive education.
- In a school in Kansas boys preparing for farm implement sales and service jobs take a course from trade and industrial, agricultural, and distributive education teachers.
- Students in Pennsylvania preparing to be dental assistants have training in the receptionist, business, and technical aspects of the job.

- In Colorado students preparing to be sales clerks in textile, furniture, and home appliance departments take a course taught by home economics and distributive education teachers.
- Students in Virginia preparing for occupations in the field of clothing merchandising and clothing services enroll in a home economics and distributive education course.
- In a Pennsylvania school some students in agriculture, through cooperative arrangements, obtain work experiences with veterinarians in preparation to be veterinary aids.

Work Experience Education

Work experience education is a name given to a variety of programs which are based on a coordinated program of training composed of work on-the-job and study in school. The chief value of these programs is their effectiveness in helping students not only learn about the demands and satisfactions of the world of work, but also in helping them to see how they themselves measure up and how the school can help them. These insights can help them to make career choices and to prepare for the transition to full-time employment. Half-days are the usual time periods for programs, though "week about" schedules are not uncommon. Newer programs seem to be moving away from "half and half" schedules to any combination that fits a particular situation or a particular student.

These programs represent cooperative efforts of schools and the business community. Schools administer and regulate each student's program. The supervision and evaluation of on-the-job training are a cooperative responsibility of the employer and the school. Instruction is the responsibility of the school, though employers and on-the-job supervisors are sometimes asked to advise.

Because of its wide use, the term "work experience education" has lost some of its particular meaning. (Some vocational educators feel that many work experience programs are not really vocational education because of the low-level training involved or the diffuseness of the vocational goal.) Terms like cooperative education, cooperative training, cooperative industrial training, work education, work experi-

ence, and work study have been used to identify these programs.

In 1959 and again in 1965 the California State Department of Education issued a *Handbook on Work Experience Education* to assist school administrators in the design and operation of these programs. In the handbook, work experience education programs are classified as *exploratory*, *general*, and *vocational*.

Exploratory work experience education is essentially a guidance program. In a program of this type students spend specified hours of school time at a variety of jobs—either within the school or at business, professional, or industrial establishments—for the purpose of ascertaining their suitability for the occupation. During this time they are given opportunities to observe and to participate in a variety of activities. It is not intended that students do productive work. Students receive school credit but no pay. Close supervision is provided by the school to ensure that students are not exploited and do not replace paid employees.

General work experience education gives teenage boys and girls maturing experiences through supervised part-time employment that will help them to become productive, responsible individuals. This part-time work need not be related to the occupational goals of the students. It may be performed either in the school or outside the school in public or private establishments, and all or part of the work may be done during school hours. Pay is received for this work if it is performed outside the school. Pay may or may not be received for jobs performed within the school. Students receive school credit for general work experience education.

In *vocational* work experience education programs the employment of students is specifically within the occupations for which their courses in school are preparing them, the employment thus serving the function of a practical laboratory for reinforcing the in-school occupational education. Students in vocational work experience education receive both pay and school credit for their work. (19: 5-6)

While most work experience programs fit into these three categories, some of the new programs for the potential or imminent dropout do not seem quite to fit. For some of these students, schools have developed short-term, simple-skill

courses. They have evolved other programs which, while vocationally oriented, give major attention to personal development. Work experiences have also been helpful to mentally retarded youth in making the transfer from school to the world of work. These five types of work experience education are described in more detail in the following pages.

Exploratory Work Experience

Exploratory programs are most often found in junior high schools as a part of introduction-to-vocations or career-survey courses. Work experiences supplement the student's study of the world of work by enabling him to "feel" what knowledge, skills, and attitudes are necessary for successful job performance. In addition, students can explore areas in which they feel their vocational interests lie and determine whether or not these are suitable for them.

In 1953, a work-experience education program was started in each of the five high school districts in Santa Barbara County, California, with the help of the Rosenberg Foundation. Commenting on the program after some years of experience, the County Superintendent of Schools wrote,

This type of work experience education has opened up opportunities in hospitals, laboratories, clinics, schools, government offices, etc. Students have served in the District Attorney's office, as teacher aides in the elementary and junior high schools, as assistants in medical laboratories. They have been assigned to banks and business establishments and have moved from station to station within these organizations, learning about the various departments and the standards of training and behavior demanded of them. The entire county has become a laboratory for studying the world of work and for matching the work aptitudes against the standards which are set for the worker. (46: 4)

General Work Experience

These programs have generally been developed for one or both of two reasons: to let the student assume, perhaps for the first time, the responsibility of holding a job; and to help him earn money needed to stay in school. The two most prominent examples are the work-study program under

the Vocational Education Act of 1963 and the in-school program of the Neighborhood Youth Corps.

Under the work-study program in the 1963 act, vocational education students in good standing who need financial help to stay in school are, with a few limitations, able to get that help. They may be employed by the local education agency or by some other public agency or institution for not more than 15 hours in any week when the student's classes are in session. The work may or may not be related to his vocational training courses. The student must be enrolled for a full-time program that meets standards set up by the state. He must be at least 15 years old and no more than 20 at the time of entry, and considered capable of maintaining good standing.

Stipends granted for the Youth Corps work-study program helped over 200,000 youth from poor families stay in school during the 1965-66 school year. In the poorer NYC programs the work experience was "just a job"; when the time limits ran out the youth were—except for the wages, some on-the-job experience, and some supervision—back where they were before. The better programs matched jobs and youth so that the experience was an opportunity to learn new skills. They also provided group and individual counseling sessions so that enrollees could ask questions and obtain help about job skills and grooming; students were encouraged to plan for employment or training after graduation. Three programs reported at the February 1966 convention of the National Association of Secondary School Principals show how some schools took advantage of Title 1B of the Economic Opportunity Act.

Carver Vocational High School, Atlanta, Georgia. "[We] decided that first we needed to address ourselves to the broad question of poverty. In discussing the matter with our student body we realized we had great diversity, including students from houses unfit for human habitation . . . Our primary concern was to find a way to use this opportunity for federal funds to modify our approach toward specific goals. We set up seven conferences or seminars involving students and parents (about housing, jobs and community resources available to us) . . . We followed this up with conferences involving several agencies in

the community and came up with several units that the social studies department built into its phase of the curriculum. . . .

"A total of 173 students were assigned to NYC in April of 1965, the beginning of our program. Through counseling and tutoring, 166 of them returned to school in September 1965. This was phenomenal in terms of the percentage of students who normally failed to return to school. . . .

"Our most important concern was to find models in the community of precisely what it means to perceive oneself positively . . . We felt we were able to change the students' image of themselves as culturally and economically deprived." (2: 2-5)

South Park Independent School District, Beaumont, Texas. "For some students their NYC assignments serve as practical experience in such fields as vocational nursing, carpentry and typing, among others . . . Most of the students available for the program are not self-motivated . . . They have never known success before; they need close guidance, close supervision, and a tremendous amount of encouragement. Accordingly, our counselors conduct group and individual counseling sessions with these youngsters concerning their responsibility as employees and their responsibilities as students. General sessions are held on proper job application procedures (including proper dress), job termination, and using the work experience of the NYC program . . . Several obtained full-time jobs in the fall as a result of having worked with the program throughout the summer . . . I've noticed and I've heard reports from the other principals that going into the NYC program is actually changing the personality of many of these youngsters. Now they are coming in with their heads up, walking in the cafeteria line and paying for their meals. NYC has certainly been an uplift for these youngsters!" (2: 5-8)

Westinghouse High School, Pittsburgh, Pennsylvania. "During the past year we have employed 107 NYC enrollees. To a large extent we have placed them on jobs related to their vocational training or future employment interests. . . . Enrollees also free teachers from the chores of operating projectors and the like for more professional tasks. . . . There was a good deal of skepticism at first, by the community and school personnel, but this vanished when students reported and generally produced a good day's work . . . Grades, attendance and punctuality improved with enrollment in the Neighborhood Youth Corps. We found, too, that the number of students who skip

lunch has decreased . . . There is also a tendency for the children to be a little better dressed. . . . I hope we can expand this program as we refine our curriculum." (2: 9-11)

Vocational Work Experience

This kind of work experience is designed for those students in standard vocational education programs who expect to enter full-time employment at the completion of the program. Work experience is sometimes a final activity, coming after in-school class, shop, or laboratory training to facilitate the transfer from school to the job. Sometimes, however, most of the skill training is accomplished on the job through cooperative arrangements with business and industry. By using such cooperative arrangements, schools can offer realistic vocational education for more students in more occupations than they could if they limited themselves to the use of school facilities. Such programs also provide an avenue for functional school-community relations. For employers, the cooperative programs serve as a recruiting device and as a way of influencing pre-employment training. Cooperative vocational education can now presumably be offered in any occupation. "Diversified occupations," "cooperative industrial training," and "cooperative work experience" are terms used to indicate particular kinds of these programs.

In 1963, the San Francisco Unified School District helped the city government set up a Jobs for Youth committee, with representatives from management, labor, and youth-serving agencies. Through their combined efforts a cooperative work experience education program was developed. During the 1965-66 school year approximately 600 students worked part-time in 28 different kinds of jobs. Typically the program was open to seniors, who received on-the-job training four consecutive hours a day, five days a week, for a 14-week period. The remainder of the day and school year the student took general and related courses in school. Experience indicates that the program provides an effective way of helping youth make the transition from school to job; more than 75 percent of the students who enter the labor market after graduation from the program continue in permanent employment in their field of training. (35: 11)

Programs for the Imminent Dropout

Few problems are more complex than that of easing the shift from school to job of a young person who is not interested in school and/or not successful in school and who may also be alienated from society. The transfer may come early or late; the transfer time may last only a couple of weeks or as long as a year; the degree of alienation may be mild or pronounced. Whatever the combination, schools have been trying many programs, and work experience of some sort has been used in nearly all of them.

A rationale for an emphasis on work experience as the way to facilitate the transfer from school to work has been stated by Daniel Schreiber, the director of NEA's Project Dropout:

Because work is basic to the existence of any society, it is difficult if not impossible to think of an individual fitting into society without a work role. . . . If a man has no occupation and is not working, he performs no function in or for society. At best his relations with others are marginal; at worst he is alienated from them.

Since work is the hallmark of maturity, many educators believe that work experience programs should be made available to maladjusted youth. They hypothesize that:

1. Work experience gives direct and indirect satisfaction to maladjusted youth which reduces the likelihood of delinquent activities on their part.
2. Work experience can prevent serious delinquent behavior.
3. Work experience can rehabilitate the maladjusted. (40: 285)

When should work experience begin? Schreiber feels that schools have the responsibility of making work-experience available to pupils who want and need it. For some students, age 13 may not be too young.

In large cities especially, a variety of work experience programs, mostly for the imminent and potential dropout, generally include the following characteristics:

- a. The length of the training period and the amount of daily time on the job and in school can vary according to the tolerances of the individual.
- b. Individuals and jobs are carefully matched so that success is possible with reasonable effort.

- c. Opportunities for identification and status are available. Symbols (a baker's hat, a uniform), ceremonies (awards for the successful completion of a unit), and titles (a barber, a mechanic, a salad girl) are utilized, for people like to be somebody rather than nobody.
- d. Gainful employment is emphasized as a sign of maturity.
- e. Adult leaders and supervisors are selected to offer models for youth to follow.
- f. Counseling service is adequate to enable immediate help to solve personal, in-school, and on-the-job problems.
- g. School instructional service is modified according to the immediate needs of the student.
- h. Work alternatives and opportunities for re-entry to school and further vocational training are made known.

Two instances will show the directions that programming for potential dropouts is taking. In Chicago a vocational work-study program has been developed for 15-year-old students. These students receive 200 minutes per week of related theory, coordinated with two hours a day of work experience. Work stations have been set up in schools or other tax-supported institutions. Funds from the ancillary and research-service provisions of VEA-63, were used for the program.

The Kansas City Work and Study Program began in 1961. Groups of about 200 seventh-grade boys were selected in the spring of 1961 and again in the spring of 1962 on the basis of school maladjustment and average or below-average ability. In Work Stage I, for boys 13 to 15 years of age, socially useful work was carried out. The boys did unskilled yard-landscape work and small repair jobs. The remaining half of each pupil's schedule was spent in an academic program geared to his abilities, interests, and temperament. In Work Stage II, boys from 15 to 17 spent half-days working for hire in local business or industry at tasks similar to those in Stage I. In Work Stage III, boys 16 to 18 concentrated on full-time successful employment as their major objective. (40: 292)

School programs for young people who seem about to leave school run the gamut from short courses providing the student with a few job-entry skills to those which offer full-time instruction and service in a residential setting. The common

element is that the programs operate with an unusually low pupil-teacher ratio, often have specially trained staff members, and command a rich variety of material resources. Thus, each student gets the personal and instructional services he needs and can tolerate, on his terms.

Examples of Short-Term Skill Programs

Joseph P. Congemi, Vocational Coordinator of the Madison Area Project, in Syracuse, New York, suggests a 10- to 20-day, one-period-a-day course for identified, "hard core" dropouts just waiting for their sixteenth birthday or another possible leaving date. He says that even in a short time it is possible to help the young person prepare for his new role. The course would include such topics as how to apply for a job, how to obtain working papers and credentials for employment, minimum wage laws, banking and saving, union and non-union membership, and technical and night school opportunities. (11)

Cleveland is proposing to set up short-term courses for students with special needs. Programs for individuals will begin whenever needed. If, for example, a boy or girl has only two weeks before leaving school, a specially designed program will be arranged.

In 1964, Minneapolis set up an after-school training course in food service occupations. The course ran two evenings a week for six weeks. Thirty juniors and seniors enrolled. Twenty completed the course and received certificates. Five of the 10 who dropped out did so because they became employed. More than half had part-time jobs by the end of December. More than 40 representatives of the Hotel and Restaurant Association and other interested food service groups were members of the advisory committee. The course was funded under the Vocational Education Act of 1963. A similar course has since been organized for filling station attendants.

Examples of General Development Courses

In September 1965 Franklin High School in Somerset, New Jersey, instituted a pilot program in "semi-skilled em-

placement education" for students who "get into academic difficulty" but cannot be classified as mentally retarded or emotionally and socially disturbed. The program includes instruction in grades 9, 10, 11, and 12 in three major areas: English-social studies, math-science, and semi-skilled occupations. Time has been provided for teacher-team conferences to encourage coordination of each student's program. Instruction has been geared to the level of performance and nature of each young person; schedules can be varied to meet his shifting needs and interests. However, a general pattern has been designed. In grades 9 and 10 it emphasizes academic growth and broad vocational exploration, with experiences to broaden students' interests and help their understanding of occupational opportunities and responsibilities. In grade 11 the students train for employment in a particular semi-skilled occupational cluster and continue in a coordinated program of related general education. In grade 12 the semi-skilled training is acquired in a cooperative on-the-job situation.

The Texas Education Agency announced in late 1964 a special program to encourage local school districts to set up programs of occupational training. These programs were designed for in-school youth between fourteen and twenty-one years of age who have academic, socio-economic, or other handicaps preventing them from succeeding in regular programs of vocational education. The programs consist of a combination of occupational training with modified or ungraded academic curriculum. The curriculum is flexible in subject matter and is taught on the achievement level of the student. The training phase consists of a combination of classroom instruction with shop training or actual on-the-job training. Six pilot programs involving 895 students were initiated in January 1965. The results indicated that students gained a sense of achievement which they had not had. Improved student attitudes were demonstrated by better school attendance and better conduct in all classes. The participants have not changed completely to ambitious and conforming students, but they have shown marked improvement. The program was expanded in September 1965 to include 2,792

young people in 18 school districts. The results have been similar, but even more pronounced.

The Oregon State Department of Education has proposed the establishment of a number of pilot job corps programs in Oregon communities. The programs would be coordinated by the State Department and administered by new units in existing local educational agencies. The project has a dual purpose: (1) to assist youth now out of school who can benefit from appropriate training; and (2) to improve the educational program of many youth still attending school, particularly those who are near-dropouts but also others who might get more out of school if the methods were improved and more appropriate content was taught.

Students are to be in the program twenty-four hours a day, seven days a week, twelve months a year. While programs are to be individualized, they probably all will include (a) rehabilitation services, with physical, dental, visual, and hearing corrections as needed; attitude and behavioral modifications as needed; and instruction to raise communication skills to normal levels; (b) occupational training; and (c) general education to fit each youth for successful family membership, civic participation, and personal living. To insure a satisfactory environment for learning and living, the programs will also provide as needed (a) stipends for the economically needy, (b) full recreational programs for evenings and weekends, and (c) satisfactory housing, which may involve the use of foster homes, dormitories, or other home adjustments.

Programs for the Mentally Retarded

Mentally retarded youth aged 16 to 21 who are able to carry on school activities and certain kinds of work responsibilities with some teacher supervision are generally treated as being at the high school level. During their last two years in school their program emphasizes getting and holding a job, maintaining acceptable adult behavior patterns, and becoming a productive employee. Charles S. Eskridge and Don L. Partridge report that "mentally handicapped were losing jobs more often by their failure to adjust to a work situation

than their ability to perform the job assigned. . . . [Programs are now being modified] to provide the handicapped student with the kind of vocational experiences and with the supervision which would help him past these pitfalls."

(15: 454)

In Oakland, California, the twelfth-grade study program for special classes includes two vocationally oriented courses to train for less skilled and repetitive work of the type done by custodian's and matron's assistants, laundry workers, institutional and domestic housekeeping aides, and food handling and preparation assistants. The *Guide for Work Experience Education, Exploratory*, contains the following topics: student eligibility for work, on-campus job opportunities, selection and application for on-campus work, starting the job, evaluation of work, explanation of pay scales, and job termination.

In the "Occupations" course the student prepares for work experiences by studying topics such as: student plans for post-school life, work permits, loyalty oath, social security, areas of off-campus work, student attitudes and feelings about work, work areas of interest, job-finding procedures, how to hold a job, how to leave a job, laws relating to employment, and wise use of income.

VI: Vocational Education for Unemployed Youth

For most youth, when they leave school, getting a job is an immediate and vital concern. Generally they find full-time employment reasonably quickly and easily. But some 13 percent of out-of-school youth (16-21 years of age) are unemployed. Those who drop out before completing high school have to look the longest for their first full-time job. When they find it, it is often low paying, temporary, and unpleasant. The problem is so large-scale and serious that, since 1962, several training programs and employment services have been established to provide pathways and way stations for these youth to go from unemployment to employment.

MDTA Youth Programs

Training of youth began as a result of the Manpower Development and Training Act of 1962. Amendments in 1963, which made possible lengthened training periods, basic education, and increased allowances, have helped to expand it. (27)

The purpose of MDTA youth programs is to enable jobless young people to enter occupations in which there are local opportunities. Programs begin when youth are available; their length depends on the occupation and on the background of the trainees. In 1965, 43,200 young people were enrolled in institutional programs (public schools or private training agencies), and about 4,000 were in on-the-job training projects with private employers.

Because nearly half the trainees have had less than 12 years of schooling and are otherwise disadvantaged, they often need more than skill training. A multi-occupational approach is now emphasized, with projects providing training in more than one occupation. Training may include basic education, work on "job success" attitudes and skills, and prevocational work and occupational training in whatever combination seems most suitable. Counseling and testing, health services, social and psychological services, and follow-up job adjustment services may also be included. Placement is the responsibility of the Bureau of Employment Security.

Innovations are being tried for youth who have not been reached, motivated, or prepared through the regular MDTA programs. Devices being tried out include sheltered workshops, skill centers, vestibule training, and pre-apprenticeship training. These experimental and demonstration MDTA projects are conducted by private and public agencies under contracts with the Department of Labor.

A Multi-Occupational Center. One of the earliest multi-occupational centers is the one in Kansas City, Missouri, which began in July 1965. Most trainees are recruited and sent to the center by the Employment Security Office, although a few come in by themselves. Groups are phased in about every two weeks.

Upon arrival, trainees meet with a counselor, are given a quick introduction to the center, and are tested and counseled as to how they might proceed. Some are referred to health and family services for help. Those barely able to read and write are sent to basic education classes. Others spend about two weeks in an exploratory shop becoming acquainted with the simple tools and equipment in several trades. After that, each trainee chooses his vocational field.

(The exploratory period, to permit a trainee to get a little experience before an occupational choice is made, departs somewhat from usual MDTA practice.) From then on he spends about half of each day in vocational training and the other half in basic education. Basic education includes three subjects: reading, arithmetic, and "job success." In job success the trainees role-play, listen to counselors and personnel

men, and discuss habits and skills necessary to get and hold a job. The adults in the class help the younger people understand the realities of the world of work.

Stories told by four of the youth who spent most of their day at the center learning how to read and write (at about the second or third grade level) reveal the pain, the wastage, and the hope in these dropouts.

Alex: "I been here two months. I don't know what trade I want to get into. I'll go into the exploratory course and find out. I was in high school when I left. It was easier to go with the fellows than to stay in school. My mother didn't take much care of me. My brother tried to, but I didn't want to listen to him. I've been out of school three or four years. I worked as a fry cook and a dishwasher. I want a family and you can't go on earning \$1.50 an hour. I have trouble filling out an application for a job. That's my big problem, I can't spell. The older fellows in 'Job Success' who got laid off at _____ say that when a foreman has several applications and sees you can't spell, you don't get the job. He thinks you can't do other things, too. If I knew then what I know now I'd have stayed in school. School and teachers were all right. I just didn't want to learn."

Bill: "I left school in the ninth grade. I'd been there about a month. The teacher told me I could leave now or take the test and flunk. I left. I couldn't read. I'd been passed on each year, except for staying back once. When the other fellows talked about cutting school I usually went along. I've been out of school three or four years. I've had quite a few different odd jobs. I want to get married sometime. I can't get a better job without knowing how to read and write and have some skill. School teachers did their part. I just didn't want to study. They didn't help me, though, when I got behind. I told my nephew, he's 16, he'd better stay in school until he got his diploma or I'd bust him hard. He'll stay."

Chuck: "I've been here a couple of months. I came in with Al. I was in high school when I quit. I got into trouble because I liked to horse around. Teachers tried hard to keep me. They gave me lots of chances. I wouldn't listen. My parents ran a restaurant. I knew I could work there. My friend showed me how to work a machine. I worked at that for a while. I've been out of school for six years. I'm married.

My wife's going to have a baby. I drive 65 miles a day to get here. When I came here I thought I wanted to go into refrigeration. I might change my mind when I go into 'exploratory class.' I'm going to come back here an hour a day after I start my shop work. I want to read better. I don't try to tell kids to stay in school. It doesn't do any good. A kid that isn't interested in school won't listen to anybody. It was my fault for not doing better. After all most kids learn how to read."

Dorothy: "I've been here just a couple of weeks. The class just started. I left school when I was in the fifth grade. I was pregnant. I've worked some, but I've had to take care of my four children. I want to work in an office sometime. I also want to finish school. Thanks to Mrs. _____ (counselor) I took an exam and got an elementary school certificate. Now I can get high school credit for work here and at night school."

Reducing the Wastage. These trainees, like many others, created a favorable impression. They were clearly motivated toward a better life for themselves through their own efforts. They also seemed free of hostility toward life in general and toward their school experience in particular. It seemed tragic, however, that there had been so much wastage in their lives. School had not meant much to them while they were growing up. A series of poor-paying jobs sandwiched in between periods of unemployment must have been devastating. How much of this could have been prevented? Certainly, much of the wastage was caused by factors unrelated to school. It may well be that the best teachers could not have reached these youth. It may very well be that some people may only "grab on" after reaching adulthood and the last chance comes by. But now education seemed to have a new meaning for them. Besides the "last opportunity" feature, what was there in the way the center operated that helped? It seemed to this observer that the following may have contributed to the attitudes expressed by the trainees:

- Low trainee-counselor ratio; counselors can listen and help the trainees with a wide range of personal problems and school problems.
- A curriculum geared to the objective of helping them obtain a better job.

- Small class size and long class periods, permitting teachers and trainees to know each other well.
- Placing of responsibility for learning and rate of progress in the hands of the trainee.
- The mixing of adults and youth, so that youth can profit from those who have had more experience and yet are not so very different from themselves.

The Job Corps

The Job Corps has been described as the most ambitious new education method of the anti-poverty program—"a new and experimental, coexistent high school system." According to John Carmody of the *Washington Post*:

The Job Corps, which works with youths aged 16 to 22, has been set up as a frank competitor to the public high school program in the United States. This is the system that has failed the poor, particularly the Negro poor. About 84 percent of all Job Corps trainees have dropped out of high school at some time in their young lives. (8)

This residential training program for out-of-school, out-of-work, underprivileged young men and women was established to increase their employability by means of vocational training, basic education, and emotional and social reorientation. Louis D. Eigen, Associate Director of the Job Corps, says that in addition to this function Job Corps officials see the changing of educational, employment, and other institutions as a part of their grand design. He said: "We are interested in the question of changing the existing school practices very much; incidentally, I believe to a certain extent we already have." (23)

To see what the Job Corps was like and to find out what they were doing to increase the employability of their enrollees and demonstrate a "better" educational program, the writer visited Job Corps Centers for men at Camp Parks, California, and Camp Custer, Michigan, as well as the Women's Center in Cleveland. At these centers he talked with teachers, administrators, and corpsmen. He visited

classes and observed a counseling session and several avocational activities of the enrollees.

Overview. The first center opened in early 1965. By mid-January 1966, the Job Corps had 73 conservation centers with over 8,000 enrollees, eight urban centers for men with another 8,000, and six urban centers for women with 1,500. Plans call for an increase in the total enrollment in all centers to 30,000 by the end of fiscal 1967. Job Corps officials estimate this number to be about three to ten percent of the "universe of need."

Urban centers offer specific job skill training, while in conservation centers vocational training is limited. Forty-three percent of those enrolled in December 1965, had dropped out of school before completing the ninth grade. As of February 1, 1966, the dropout rate has been about 35 percent. Half of those who left did so in the first 30 days. About 700 had graduated; that is, they had left after completing one or more vocational courses to some "step-off" point. Forty-six percent had found a job; 34 percent had gone into military service; and 20 percent had returned to school. In a recent sample of 143 graduates, about one in ten had "disappeared" from their jobs.

Vocational education is one part of a day-long program of education. The other two parts are basic education (communication skills, mathematics, social understandings—and, at women's centers, homemaking education); and group living activities involving recreation, group and individual counseling, and corpsman government.

Each urban center offers a vocational program somewhat different from the others. For example, Camp Parks offers training in six occupational areas, and completion of any one complete course will probably take the average corpsman two years. At Camp Custer each of the six occupational areas was designed to be completed in seven months. At the Cleveland center for women much of the vocational training is by means of on-the-job programs which take about a year to complete. Because enrollees proceed at their own rates, completion times can vary considerably.

Education at the Job Corps Centers. At each of the centers the writer discussed programs at some length with at least one staff member. The following report is presented as though he were interviewing the persons from the three centers at one time. Because the instructional programs at Parks and Custer seemed similar, the letter "M" will designate responses of their staff members, while the letter "W" will represent the responses of the Cleveland staff member.

Q: What are the men (women) like who come here? What are their motivations?

M: As you know, most of them have dropped out of school and have found it hard to get and keep a job. They've got a defeatist attitude and few skills.

W: They want to get out of the situation they've been in. They want a second chance and have reached out for it. They're quite sensitive about some of their deficiencies. For instance, one girl came in with a suitcase; her only possessions were what she was wearing, but she carried a suitcase, like the others.

M: They come in to learn the skills to get a better job. One of our problems is that some of them leave too soon, we think. They learn the skills of one job enough to "do" simple job.

Q: The corpsmen I've talked to seem interested in their vocational training. Also they aren't hostile to each other or to me.

M: Your comments have been made by a number of people. The corpsmen are interested in learning job skills. They resist basic education because they don't want to admit their deficiencies. Some resist the reminders of school. Some of the fellows do have problems in keeping up regular attendance—getting up in time and that sort of thing. We have our difficulties, too, from 5:00 p.m. until 8:00 a.m., when they return to the scheduled program. They have social problems in and off the center. We have to put across another way of life to them.

M: It should be remembered that coming here was the first major decision some of these people have made.

Q: What do they say about school?

M: Most of them say the pace was too fast for them. They couldn't keep up.

M: They like the personal relationship with us. We treat them like men and in class we're with them for at least two

and a half hours a day. They're glad that they can progress at their own rate. They like the opportunity to discuss topics, particularly the aspects of living that concern them, rather than listen to presentations. The vocational orientation of what they're studying is important.

Q: What are the major elements in your instructional program?

M: First, everything the corpsmen do is education. It's all related. For example, corpsmen are given a clothing allowance. Before they go shopping, the basic education teacher talks about how to shop wisely. Groups of students then visit nearby stores of cooperating merchants who open their stores evenings with no one else around so that the men can look around to see what they want. After that the men go to the stores on their own to buy what they want.

Second, we have an orientation program when the enrollees first arrive. Besides intake interviews and testing we try to acquaint them with our program. We try to let them have some idea what each occupational field is like and what academic skills they'll need. Those who read below fourth grade level are encouraged to take a full day of basic education. Not all do. Those who have a high school diploma or can pass an equivalency test can be in vocational education all day. Their general expectation is they will be in vocational education a half-day and basic education a half-day.

W: Our exploratory period varies from two or three days to two or three weeks depending upon how much try-out a girl needs to make her decisions. For example, a girl with a sixth grade functional reading level may take basic education all day and have an exploratory experience in a beauty salon so she can see if she has sufficient basic skills to be successful in that vocational training program. During the exploratory period each girl is assigned to a team composed of a vocational education teacher, a basic education teacher, a personal adjustment counselor, a vocational counselor, and a placement officer. This team stays with the corpswoman until she leaves, unless there is a change in her program.

M: Third, our vocational education program is composed of modular units; that is, each curriculum is subdivided into courses which are made up of individual modules, and each course subsequently leads to a different area of employment. Each course is focused on a specific set of terminal behavioral objectives. As soon as a corpsman satisfactorily completes the ob-

jectives of a course at a step-off point, he can advance within that course, transfer to another course, or step off to employment. The programs are geared toward entry-level job skills.

M-W: Fourth, time is a non-unit. The corpsman proceeds at his own rate. He may take a few weeks or many weeks to complete a vocational module or course.

M-W: Fifth, our basic education classes are grouped according to reading achievement. Those with up to fourth grade level achievement are in one group. Those from fifth through seventh are in another group. The remainder are in a third group. The basic education classes are self-contained. Also, the corpsmen in each basic education group are in the same or similar vocational classes to encourage correlation of classes and communication among instructors.

M: Sixth, because corpsmen enter every few weeks, proceed at their own rate, and have a wide range of ability in each class, instructional materials are individualized. We use programmed materials in mathematics. For reading we use some of the well known individualized programs. We are also developing new materials to meet these students' interests and abilities.

W: We've used USOE and MDTA materials as well as some from the schools.

M-W: Seventh, our program is "success oriented." There are no grades. The corpsmen tackle only jobs at which success is reasonably possible. We make it easy for them to know how they are doing. They like to keep progress ch: .

M: Eighth, our classes are relatively small. In vocational education most classes have a 1 to 15 instructor-corpsman ratio. In auto mechanics and others with moving equipment the ratio is about 1 to 5. In drafting the ratio is about 1 to 20. In basic education 20-22 is the usual class size.

W: Our usual class size is about 10.

Q: Are there other important features in the program of the center?

M-W: We have corpsman government, dances, and other activities so the corpsmen have leadership and participation responsibilities. Also, once a month we have a "gripe session" where corpsmen can ask any question or make any comment they wish to the center director or anyone else. We have frequent dorm and barracks meetings, too, to facilitate communication.

M-W: Toward the end of a corpsman's stay here we have a terminal period. We try to help the corpsman become acquainted with realistic job situations and with problems that may arise out of being away from the center and the counselors.

Q: How important is successful placement of corpsmen to the Job Corps?

M: It is very important. All the skills and attitudes making for employability could go down the drain if there were much lag between this program and employment, the service, or school. Enrollees would stop coming very quickly.

Q: What has been the effect of the pressure of placement and job success on your program?

M: We concentrate on placement. We are developing new materials to better fit the corpsmen.

W: It causes us to try different things more frequently. For instance, we reduced orientation from three weeks to ten days when the longer period didn't seem successful. Because of the corpswomen's feelings our communications to them need to have a job orientation. Work in vocational education should consist of production jobs as far as possible.

Q: What impact, what influence do you feel you've had on public schools?

M: We've had quite a few visitors.

W: We've had many visitors, too. We've learned from the schools, too. We've participated in school workshops. We've looked at their experimental materials. I've asked for other information. Our girls work as assistants in Head Start.

Reaction to the Job Corps Centers. It was with some anxious anticipation that the writer drove into the first Job Corps center he visited. Here, he knew, were the dropouts and shove-outs from the public schools. Here, too, was another set of critics of the public schools. Even more, here was an organization that said it meant to reform the high schools of the country. What he found was considerable *esprit de corps*, tremendous effort, familiar faces and practices, earnest young men and women, and some zealots.

Around 5:30 one evening, after spending a day visiting the center, the writer walked into one of the offices to talk

with one of the center's officials, only to find a former student of his own, a man notable for insight and feeling for the importance of people. He was on the phone. One of the corpsmen was stranded in a nearby city. What did the center want to do? asked the police. The answer was, after a quick canvass, that one of the center's top administrators, who was at a meeting several blocks away from the corpsman, would pick him up and bring him back. This concern for welfare of the individual is a central feature of the Job Corps. The Corps has the desire and the resources to accept the enrollees as they are, to take care of their physical and psychological problems, and to plan and to work with them toward their vocational future. This attitude accounts for much of the calmness, the friendliness, the willingness to work at vocational and academic training that the corpsmen and corpswomen display.

Observation of instruction in both vocational and basic education had its surprises, too. One found people one knew or knew about as educators. The organization and materials and procedures were generally similar to those seen in schools. The shops and laboratories were generally better equipped than their counterparts in schools. Most enrollees spent half-days in vocational education and half-days in general education, as do vocational education students. Vocational course work was focused on skill training with somewhere between a fifth and a third of instructional time devoted to related theory. It seemed that the vocational classes of the Corps give less attention to "live" work and more to exercises and drill than schools do. One reason for the similarities was that many of the center personnel and some of the courses of study were obtained from schools and educational offices.

One comes to suspect that at this point in time the Job Corps has learned more from the public schools than the schools have learned from the Job Corps. Schools may, in fact, need resources and public confidence and support more than they need examples and disdainful criticism from some political opportunists.

Could the schools mount a program similar to that carried on by the Job Corps? In the writer's opinion, the answer is a "yes, if." They would have to be willing to loosen some

of their rigidities, work in terms of what makes sense to the potential dropout, and most importantly, provide the kind of counseling and instructional service that seem supporting to the difficult student. However, for schools to perform this task adequately, they need counseling and instructional staffs adequate for the job. Some schools, particularly in the larger cities, are already carrying on good programs for disadvantaged students.

There is one difficulty with which schools have to live and the Job Corps does not. This is the bad home situation in which many students live. Residential facilities do eliminate an unfortunate environment. However, it should be remembered that residential facilities can be made a part of other vocational education programs. The Vocational Education Act of 1963 does permit the construction of residences for vocational students to permit these students to escape from poor home and neighborhood conditions. Also, the counselors in some of the MDTA multiple-skill centers have moved trainees from their homes to residences, homes, and apartment buildings.

There is also the question, When is the removal of a person from a poor environment just an escape from a reality to which the person must someday return? May it be better in the long run to help a person work through a difficult situation than to remove him from the situation, knowing he must return? While answers or decisions need to be made in terms of individuals, the resources need to be available to implement the alternative chosen.

The Neighborhood Youth Corps

The NYC provides work experience for youth from low-income families. For out-of-school youth, the work projects stress the development of attitudes and behavior suitable to regular employment, such as being on time, getting along with co-workers, taking supervision, and working. This work experience is "expected to be a first step—a bridge that will enable [the enrollees] to return to school, undertake skill training, or hold regular jobs." (27) While the NYC urges local sponsoring agencies to provide work experience that is

skill building and can help the enrollee to a better job, the experience and training gained on the job depend more on the supervision than on the nature of the job. Over half of the out-of-school enrollees obtained their first job experience through the NYC.

Out-of-school enrollees may work up to 32 hours a week and thus earn up to \$40 weekly. Enrollment is currently limited to six months, but if an enrollee takes at least six hours of education a week the time can be extended. Because the NYC sponsoring agencies (any public or private nonprofit agencies, including CAP and CAA groups) are asked to give priority to youth who have been rejected by the selective service, and who have insufficient education to obtain jobs, erratic work histories, improper attitudes toward work, and social adjustment problems, it has been found desirable to include supporting services in the project. The inclusion of remedial education, enrichment experiences such as trips, and health services is now required.

According to the newsletter of the National Committee on Employment of Youth, ". . . outside services have not been available due in part to the inability or unwillingness of NYC programs to coordinate with the education and training services offered through other Labor Department youth programs and through Community Action Programs. . . . Attendance at evening courses is the exception rather than the rule even when programs offer their own remedial programs. . . . More realistic and beneficial would be altering NYC in such a way that counseling and remediation could be integrated without loss of wages during the regular working day." (47)

What have been the results of the Neighborhood Youth Corps? As of February, 1966, few data were available because of the decentralized nature of the program and the small amount allowed for administrative and evaluation costs. However, the NYC has become politically attractive. It is less controversial than Community Action Programs, and has served seven times as many youth as the Job Corps. So, the stock of the NYC may well go up and its programs become larger.

VII: The Administration of Vocational Education

THE new opportunity and responsibility to prepare more youth more effectively for the world of work has generated considerable activity. Organizations have had to be set up, information disseminated, regulations adopted, and projects, plans, and allotments approved. The accomplishment of these tasks has been a complex operation, not only because of the size of the programs and the new directions proposed by the various laws, but also because of the coordination necessary among agencies and persons at federal, state, and local levels, and among various groups at each level.

This chapter first discusses the responsibilities of the federal Division of Vocational and Technical Education and some of the issues that have arisen at that level. Second, it deals with decisions made by some states about the organization of area vocational schools and the provision of better programs and services for all schools. Next, it takes up a question facing many districts: whether to emphasize vocational programs in comprehensive or special schools. Finally, it poses some continuing questions about vocational education.

Division of Vocational and Technical Education, USOE

Funds authorized to the states to promote the purposes of the Vocational Education Act of 1963 have been granted under certain conditions, one being that each state is to have a State Plan approved by the U.S. Commissioner of Education. The agency which has the responsibility under the Commissioner of Education for processing state plans and

grants is the Division of Vocational and Technical Education of the U.S. Office of Education. This division is also responsible for the training program of the Manpower Development and Training Act of 1962. Accordingly, the staff members of the Division have been very busy with a wide range of programs, problems, and decisions. Their activities can be categorized as (1) setting up an organization, (2) informing interested educators and the public as to the intent and the regulations of the acts, (3) processing state plans and grants to the states, (4) providing technical help and leadership to states and local districts, (5) providing staff work for the Commissioner of Education in relation to Congress and other executive branches of the government, and (6) establishing procedures for the improvement of vocational education through research, experimentation, evaluation, and leadership training activities.

Reorganization of the Division of Vocational and Technical Education

The position of the Division of Vocational and Technical Education in the "pecking order" of the U.S. Office of Education is not at all to the liking of the leadership group in vocational education. The division is one of three in the Bureau of Adult and Vocational Education. Furthermore, the Division of Adult and Vocational Research, which is responsible for the research and experimentation portions of the new program, is in another bureau.

At the December 1965 convention of the American Vocational Association, the House of Delegates passed a resolution seeking bureau status for the division and advocating an administrative structure that would emphasize the major occupational fields. (3) The vocational educators seem to have been after the influence and autonomy important for specialists in a bureaucracy. They may also have been seeking to protect themselves from non-vocationally oriented educators, particularly in the U.S. Office of Education, who were felt to have little knowledge of how a vocational program must function to be effective. During the next several months

representatives of the AVA met with officials of the U.S. Office of Education to promote the bureau status proposal.

In April 1965, after the Elementary and Secondary Education Act was passed, the President appointed a task force to examine the organization and personnel problems in the U.S. Office of Education. When the task force recommendations were adopted in July and the Office of Education was reorganized, the Division of Vocational and Technical Education retained its division status. In August, the division, in turn, announced its own internal reorganization, and the organization represented a shift, as did the Act of 1963, from an occupational-field orientation to unified programs and additional services and functions. The following branches and sections were set up:

1. Manpower Development and Training Branch
 - a. Institutional Training
 - b. National Programs
2. Program Service Branch
 - a. Curriculum and Instructional Materials
 - b. Ancillary Services
3. State Vocational Services Branch
 - a. State Plans and Activities
 - b. Occupations
4. Program Planning and Development Branch
 - a. Program Planning and Development
 - b. Facilities Planning and Development

The status of DVTE within the Office of Education and the position of the occupational fields within the division displeased many vocational leaders. M. D. Mobley, then executive secretary of the American Vocational Association, commented somewhat bitterly:

"There seems to be growing sentiment among vocational leaders and Congressional friends that vocational education will never develop properly and adequately so long as its administration is not at a high level nor in the hands of administrators who have a genuine interest in, and knowl-

edge of, the program. If this sentiment continues to grow—and there is much evidence that it will—it may in time, develop into a knock-down, drag-out fight that could result in the creation of an Office of Vocational Education similar to the Office of Vocational Rehabilitation that was once a part of the U.S. Office of Education." (29)

Several months later the new AVA executive secretary, Lowell A. Burkett, commented similarly:

"The status of the federal agency administering federal funds for vocational education is at such a low level in the U.S. Office of Education that vocational educators are no longer in a position to make policy affecting the program."

(5)

Coordination of State Vocational Education Programs

Though DVTE presumably was not in a position to be influential within the U.S. Office of Education or with other executive departments or Congress, it was certainly influential with state divisions of vocational education. The tasks and the time table given the Division were staggering and the accomplishments were outstanding. The Vocational Act was signed by President Johnson on December 18, 1963. From then until the end of the fiscal year, June 30, 1964, the department had to (1) devise regulations and procedures and time tables for the states; (2) inform state divisions of vocational education and other interested groups about the regulations; (3) process and approve state plans; and (4) issue the moneys authorized to the states.

Much attention has centered on the development of area vocational schools, because the idea was new to many states, large sums of money were involved, legal authority for such an agency did not exist or was unclear in many states, and to set up a center is a complex process. It may be, too, that construction of area vocational schools was promoted because it was a way of extending vocational education, a way which would probably remain a distinctively vocational education function.

What was accomplished as a result of this work? The *Summary Report of Vocational-Technical Program Development by States*, issued by the DVTE in December, 1965, estimates that enrollment in vocational and technical programs of all kinds totaled 5,263,200 for fiscal year 1965—an increase of 15.3 percent over 1964. During fiscal year 1964, \$330 million was spent for vocational education. Of this, \$55 million (17 percent) was federal money; \$25 million (37 percent) was state money; and \$152 million (46 percent) was local support. Of all the federal funds allocated, 30 percent went into secondary programs, 14 percent to post-secondary programs, nearly 8 percent to adult education, a little more than 5 percent to ancillary services, and about 2.5 percent for persons with special needs. During the first year of the act more than 40 percent of the federal funds allocated to the states was used for construction.

This expansion of vocational education generally has meant that more standard vocational courses are being offered—and they are being offered in more schools. The programs being developed and extended in *comprehensive* high schools have tended to be in agriculture, business education, home economics, and distributive education, which have traditionally been offered by general high schools. Some trade and industrial courses, such as auto mechanics and construction trades, are also to be found in many high schools. Area vocational schools are largely trade and technical schools.

The developing pattern seems to be that many school systems offer those courses they can; they then provide other vocational programs which they cannot carry by themselves in cooperation with other districts. Whatever the organization, the intent has apparently been to offer each student a range of at least five vocational fields from which to choose.

In a study now in progress and sponsored by the National Association of Secondary School Principals, data are being gathered from all schools with enrollments between 750 and 2000 in the last four years of the school, and with between 25 and 75 percent of their graduates going on to some form of higher education. The data from a sample of 200 of these indicate the following percentages having particular kinds of vocational courses:

	Percent
Business education	100
Home economics	92.5
Cooperative programs	59
Distributive education	56
Auto mechanics	52
Construction trades	42.5
Agriculture	42

Working with Congress. In addition to working with State Departments of Education and Divisions of Vocational Education, staff members of the DVTE must keep in close contact with the events on Capitol Hill. During the Spring of 1966 the division staff, the American Vocational Association, and other vocational leaders worked with members of Congress (1) to maintain the appropriation for vocational education at the authorized level; (2) to oppose a bill which would lessen the control of vocational educators over vocational education by permitting the governor of any state wishing to reorganize the state government to waive any particular agency, thus making possible the abolition of state boards for vocational education; and (3) to have all federally supported vocational education programs be coordinated through the Department of Health, Education, and Welfare.

The primary target of the third effort was the Job Corps. To vocational educators the Job Corps creates a "proliferation of training activities in several branches of government resulting in competition between agencies at the national, state and local levels" and represents "direct intervention of government into an area of responsibility designated to the states." (3) Vocational educators also feel that the public schools can accomplish the functions of the Job Corps at much less cost. Regarding the intervention issue, Byrl R. Shoemaker, Director of Vocational Education in Ohio, has pointed out that most of the education legislation enacted during the 1960's "recognizes clearly the leadership role of the state and local educational agencies . . . the Manpower Development and Training Act also recognizes this role but for the first time imposes Federal controls upon individual educational programs operated within the states . . . The

Economic Opportunity Act is the act which most clearly violates the accepted principle that states and local agencies should be developed . . . to offer educational services to youth and adults." (41)

Though there are federal programs which split off educational functions from the traditional agencies and which cause a competition among federal departments for funds and programs, there seems to be no similar move by state governments and agencies. All of the state directors of vocational education with whom the writer talked and corresponded said that no state legislators or others had proposed educational programs outside the regular state educational framework. Rather, it seems the states are stepping up through state educational agencies new programs for disadvantaged youth, some with residential facilities. Thus, it may be that if any decline in the Job Corps occurs it will come about from increased state and local efforts and lack of "grass roots" support for the federal education system—the Job Corps, that is.

State Planning for Vocational Education

To secure federal support each state must prepare a state plan and have it approved by the U.S. Commissioner of Education. Generally, the policies and patterns of organization shown in the most recent plans have been continuations and extensions of existing procedures and structures. However, the states' educational agencies and legislatures have had to make decisions about several new conditions.

1. Opening up vocational education at post-high school, college, and adult levels has raised questions as to priorities.
2. Establishing area vocational schools has raised questions as to criteria, administrative control, and mandatory or permissive participation by school districts.
3. The restructuring of state divisions of vocational education, along lines of the federal division, and the question of whether or not to add vocational programs in general high schools or in area centers have raised problems of relationships. That is, what balance of separa-

tion and togetherness will result in strong, compatible programs of general and vocational education?

While involved in these problems, vocational education divisions also were working with legislatures to raise funds to match federal appropriations; processing requests for funds and programs, generally on a project basis, from school districts; carrying on information programs with general educators who were sometimes skeptical, and with the public—particularly school boards and business and industry leaders who would be asked to assume more responsibilities; and trying to fill gaps in their staffs resulting from growth and from recruiting by federal and regional agencies and vocational education agencies in other states.

Reports of developments and plans vary considerably from state to state. Developments have been influenced by the extent and nature of existing vocational education programs; by "practical matters" of population size and concentration, amount of taxable wealth, and economic outlook; by the research experimental base given to the development programs; and by a general point of view regarding social institutions—that is, whether or not people tend to want uniformity and centralization or variety and decentralization of administrative control, and whether they tend to favor multi-purpose or single-purpose institutions.

Development of Area Vocational Schools

Since 1963 the states have spent much effort in developing rules and regulations for the establishment and support of area vocational schools. Area schools have received such attention because they are not only a way to reach more high school students, but also a way to make training possible for out-of-school youth and adults wanting or needing a re-entry or upgrading training. About half the enrollees in vocational education classes in high schools and area vocational schools have been out-of-school individuals.

To make area vocational schools possible on an interdistrict basis, special district basis, or as a state system, many states have been busy preparing and passing enabling legislation. The three issues generally dealt with have been: (1)

mandatory or permissive participation by districts, (2) type of administrative control, and (3) the relative emphasis to be given to high school and post-high school programs. Considering the entire nation and comparing reports from the several states, it seemed as of May 1966 that no nationwide pattern existed regarding these three organizational matters.

For example, in 1965, the Iowa legislature provided for the establishment of not more than 20 merged areas (two or more counties) which shall serve all of the areas and districts of the state. Each area is to develop either an area vocational school or an area community college. The program and services of the area vocational school or community college are to be primarily oriented to the post-high school level. The board of each school or college may levy taxes and has authority similar to other kinds of school districts. Area community colleges are to be supervised by the newly established Division of Community and Junior Colleges within the State Department of Public Instruction.

In several states, area vocational schools emphasizing post-high school programs are departments of junior and four-year colleges and are thus part of the total program of the college. In Oklahoma the state plan emphasizes the development of vocational programs in both comprehensive high schools and area vocational schools serving high school students. In New Jersey, where the county is the administrative unit and where from county to county there are differences in population density and land use, vocational education administrative patterns also differ. In several counties vocational training is provided through self-contained vocational schools. One county is setting up its "area vocational schools" in six or seven units adjacent to general high schools. Several counties are establishing shared-time vocational-technical centers. One county is developing a full-time vocational-technical school primarily for post-high school and adult students.

Kansas has approved the establishment of area schools throughout the state. Participation by districts is voluntary. The schools are controlled by local boards composed of representatives of participating schools or by the school board of the host district. Concurrently, a system of junior colleges is developing within the state. Decisions are in process as to

the program and responsibilities of the vocational education programs of each type of school. In Kentucky the area vocational schools are operated by the state. Schools may or may not send their students to these schools. In some states the county school department is the administrative control unit.

The comparison made here could have included many other states, and no criticism of the states mentioned is intended. However, it seems that a condition of some formlessness exists from state to state in plans for area vocational schools, regarding levels of emphasis, kinds of administrative control, and permissiveness of district participation. At this stage of vocational education, under legislation barely two and a half years old, a certain amount of formlessness may be desirable. It may be that this is the time to be exploratory and perhaps not the time to seek standardized patterns. However, it is possible that some of the differences among states and districts are caused by the accident of strong personalities in key places rather than the results of considered planning.

Planning Process. Experimental and pilot programs are being used in some places. For example, the governor in Missouri has instituted procedures to develop a state program for vocational education to be proposed to the legislature. In the fall of 1965 a consultant with a staff was appointed to conduct a study and develop a plan with the following objectives:

1. Evaluate the existing program.
2. Identify vocational and technical education needs of Missouri both from the standpoint of the state's youth and adults and of the state's economic development efforts.
3. Develop a plan for the expansion and redirection of the program as necessary to meet these needs.
4. Produce a plan for a statewide system of training facilities to meet the vocational and technical education needs.
5. Develop a plan for the administration of the program.
6. Identify the legislative and budget needs to implement the recommendations.

On this basis a plan is to be submitted to the General Assembly in 1967. Such a plan has the promise of using the resources of local, state, and federal governments to the greatest benefit of the students of the state.

Wisconsin is developing vocational education programs for students who stay in comprehensive high schools. This is an unusual step, for the state has had a separate vocational education system for years. The start is being made in 34 pilot schools according to the following schedule:

- 1965-66—Emphasis on planning, some implementation
- 1966-67—Further implementation, continued planning
- 1967-68—Continued implementation, planning, comprehensive evaluation of programs.

The experimental program has as its purpose the "exploration of methods of realistically identifying those needs, and ways in which needed programs can best be implemented in an efficient, realistic and practicable way." (37) Examples of prudent action from other states could have been cited. The two given seemed representative.

School Consolidation and Intermediate Service Units

Expansion of vocational education programs, as well as the development of a greater range of school services and improved quality of education, which have come about during the "post-sputnik" and "equal socio-economic opportunity" eras, have placed state and local school agencies under considerable stress. Many of the new programs and services are expensive; vocational education equipment and facilities are costly. Many require highly trained persons (e.g., research and psychological personnel) beyond the resources of some schools. Some functions require the coordination of a number of units for their effective operation (e.g., counseling and guidance services, as well as curriculum development and general educational planning). Some programs which are highly specialized require large student bodies so that an adequate number of persons can "sift out" to each special program; advanced programs in art, language, science, and vocational education are in this category.

To meet these demands and opportunities, state governments and school agencies have responded in two general ways. They have encouraged or forced school districts to consolidate or they have strengthened intermediate units on a county or multi-county basis or they have made both approaches. Consolidation of school districts has been going on for many years in many states, usually in a "natural" way. In North Carolina consolidation into high schools with a minimum of 700 students is being encouraged. Permissive consolidation legislation passed in Illinois in 1947 has cut in half the number of school districts. In 1966, a governor's Task Force on Education recommended that not more than forty regional districts be created. These would have authority and responsibility authorized by law to be assigned by constituent local school boards. The office of county superintendent of schools would be concurrently phased out. These recommendations will be considered at the next General Assembly.

Other states are considering some form of intermediate unit. The legislature of Nebraska in 1965 divided the state into 19 service unit areas for coordinated services in library, special education, vocational education, music, physical education, instructional materials, remedial instruction, and guidance. In the same year, the California legislature increased the research responsibilities of county education offices. In several states area vocational schools primarily serving high school students are another form of intermediate service unit.

The move toward larger high schools means that generally these schools can provide more programs and services for themselves; that is, each school can be more comprehensive. Smaller schools will probably more often need to call on intermediate units—area vocational schools, for example—or larger schools for their program and service needs.

When schools consider increasing their programs and services they also must consider what they will provide for themselves and what they will obtain elsewhere. For instance, the question arises: What is the minimum-size high school needed to offer an adequate vocational education program? Two hundred students in the vocational education program

is a rule-of-thumb number commonly estimated as a rock-bottom minimum by vocational educators, though many factors alter this number in practice. This number, 200, assumes a minimum of five programs, 20 students per class, and half-day classes. With this base, many variations are possible. If the 200 students are half of those in grades 11 and 12, the school should have a minimum of 800 students in grades 9 through 12. If the school had only 40 percent of its juniors and seniors in vocational education, it would need an enrollment of 1000; if 60 percent, the enrollment could be 667. If the number of programs were increased to eight and the percentage were 50, the school would need an enrollment of 1280 students.

The suggested pattern for vocational education in Oregon recommends the following minima: 15 students per class, 60 percent of those in grade 12 in a vocational education program, at least eight occupational clusters, and class periods for at least two hours a day (one-third of the daily schedule) in grades 11 and 12. This formula requires a minimum twelfth grade enrollment of 200, and 800 in grades 9-12. (18) About 75 percent of the high schools in Oregon are large enough to support programs according to these guidelines.

The staff of the Florida Study of Vocational-Technical Education recommended in 1964 that an area served by an existing institution designated as an area vocational education school should have a population to insure 150 full-time equivalent (300 half-time) day-time students. The area for a separate area vocational school should provide a minimum of 300 full-time equivalent (600 half-time) day-time students. (7)

Guidelines used in Oklahoma consider the relationship of programs and students between area vocational schools and "home" schools.

In order to provide a sufficiently broad offering of instructional areas, it is the opinion of the State Division for Vocational Education that a minimum of 20 instructional courses should be offered at each area school. Twenty full-time instructional areas would care for a maximum of 800 students attending the school on a half-time basis. This does not consider the fact that adults or out-of-school students would also be attending

these schools. Since studies show that 10 to 20 percent of the students enroiled in grades 10, 11, and 12 would enroll in these schools, then it would require that the "area school district" contain 4,000 to 8,000 students in senior high school enrollment. Certain sparsely populated areas of the State perhaps could not offer 20 full-time programs because of the distance factor. Other areas of the State would need to offer a great deal more than 20 instructional areas in order to care for the needs of their students. (44:2)

The Oklahoma Division for Vocational Education recommended that the following factors also be considered: (1) most of the vocational programs now offered in individual school districts should and would continue to operate; and (2) only programs that are specialized in nature, too expensive to operate in individual school districts, or not available in the individual school districts, would operate in the area schools.

Special or Comprehensive High Schools

To emphasize vocational education as an integral part of a comprehensive high school or to place it in a separate school or facility? Schools and communities cannot treat this issue as only a game of numbers. Other important factors must be considered: (1) employment opportunities in the area, (2) present and possible county and multi-county organizational patterns, (3) present and needed legal provisions, (4) present and needed financial structure, (5) interest in vocational education on the part of local school administrators and the public, (6) size of the area (commuting distances for students), and (7) present and needed facilities. The most important question of all is: What kind of total education is desirable for youth in this society, and what type of school will contribute best to it?

The issue of special or comprehensive schools—which implies also, to some degree, the issue of single-purpose or multi-purpose education—has two aspects. The first aspect is *acceptance*: To what kind of organizational structure will parents, students, legislators, and others most likely be attracted in the long run? The second is *effectiveness*: What kind of

schooling will tend to cause youth to have as adults the competences needed by our society? And what practices will accommodate most effectively the needs of the several kinds of deviancy from the norm?

It is important for this issue to be considered now, in the early stages of the growth and development of vocational education, before commitments and patterns are made and crystallized. In the past, vocational education programs have served a small proportion of secondary school students. Budgets, space requirements, and staff allocations for vocational education were relatively small. Under these conditions vocational education could be slighted without a major disturbance to the school system. If as many students become involved in vocational education programs as studies indicate could profit from this kind of preparation, the dynamics of secondary education will be different. If, for example, 50 percent of the students of a high school were in vocational education, the budget, space, and faculty requirements for vocational education would be somewhat more than half of the totals needed by the school. Schools with a large component of vocational education will be institutions considerably different from the conventional secondary school.

What Patterns Will Be Accepted?

James B. Conant, in his book *The American High School Today*, has described the differences between European and American education. European colleges and universities, he wrote, are "concerned with the education of future members of the learned professions," while the general education of these persons "is provided by special secondary schools, admission to which is determined by a highly selective procedure at age ten or eleven." He has also described the events and prevailing thought in the United States which led to an expectation that many young people would go on to college and that the "public high school is expected to provide education for all youth. . . . The American public high school has become an institution which has no counterpart in any other country." (10)

Jurgen Ruesch and Gregory Bateson, in *Communication: the Social Matrix of Psychiatry*, make a similar comparison

of European and American social institutions. The policies of an American political party, for instance, are limited from within by the divergent views of its own members, while a European party, having a relative uniformity of opinion within the group, is controlled by the existence of other opposing parties with contrasting ideologies. The system of checks and balances within an organization containing units with somewhat differing purposes, they say, is also characteristic of the American form of government, welfare organizations, universities, the American family, and the personality of the American individual.

The system of checks is based upon the interrelation of smaller units which through mutual cooperation form a larger unit. Each entity acts as a speed-up or brake mechanism for the whole system, thus regulating the rate or direction of change of the over-all system. (39)

The significance of the Ruesch and Bateson material to this discussion is that American institutions generally are composed of heterogeneous elements which are allowed to maintain their heterogeneity. As Americans we seem to like umbrella organizations which accommodate a variety of needs.

The development of American institutions of higher education seems also to reflect the preference in our society for multipurpose schools. Specialized technical institutes, business colleges, and nursing schools have not grown nearly as rapidly as the same departments in multipurpose junior and community colleges. Teachers colleges and state agricultural and technical colleges have become large multipurpose colleges or universities. Comprehensive higher education institutions seem attractive to American people.

It is intriguing to ask ourselves whether the general American inclination toward multipurpose institutions will also lead to a choice of comprehensive high schools in the face of pressure for specialized institutions.

What Patterns Will Be Effective?

The Vocational Education Act of 1963 emphasizes the area vocational school as a means of making vocational education

available to more people. In encouraging vocational education in special schools for those who are available for full-time study, those who implement the provisions of the Act tend to separate vocational education from the rest of education. Burkett indicates the rationale for the self-contained vocational school:

Experience indicates that the self-contained vocational and technical high school is the most effective type of organization from the standpoint of final results in the form of administration, well trained graduates, good industrial relationships, and tangible contribution to our national economy. (4)

Burkett's comment emphasizes the *occupational* role played by adults. It does not mention other roles that individuals assume as members of families, as citizens, as consumers and producers of culture, and as participants in recreational activities. Whether the specialized school also contributes better to these other roles is another question.

Venn states a similar reservation about separate vocational schools:

In a single-purpose institution geared to matching people to existing jobs, the temptation is to emphasize skill training at the expense of the underpinnings of longer-term occupational and civic competence, related knowledge, and general education. (45)

In speaking about the relations between vocational education and general education, vocational education instructors felt that students in their classes would do better if work in mathematics, English, and the sciences were more closely related to the vocational courses. Such modification might enhance the vocational education, but would it lessen the effectiveness of students in other life responsibilities? Instruction in any of those subjects has a "utility" which encompasses more than vocational education. It is possible, though, that for some students saturation in vocational education and vocationally oriented general education may be the best education.

The position favoring separate vocational schools can be criticized on other grounds. Norman C. Harris feels that such separation is based on two assumptions which are contrary to the democratic process. The assumptions are:

1. Some young people are destined to do the nation's work and others are destined to become leaders in professional and intellectual pursuits; and
2. It is not only possible but desirable to identify these two groups clearly and separate them at about age 14 or 15. (20)

These assumptions, Harris feels, are psychologically unsound because people cannot be categorized that neatly. He feels, too, that promotion of separatist education encourages a dualistic society composed of the elite and the workers. Harris' comments seem particularly apropos at this time in our nation's history when tremendous effort is going into programs to eliminate those inequalities and those distinctions which keep members of the American society apart.

Commitment to vocational education at an early age may be appropriate for some students and not for others. Structural arrangements regarding vocational education should be such as to make it easy for a student to enter, transfer, leave, and re-enter vocational education with minimum penalty. Transfer from a general high school to a vocational school or *vice versa* would seem generally to be psychologically harder and administratively more complicated than a change of program from department to department within a comprehensive school.

A Position With Reservations

For the several reasons just described, it seems more feasible and more acceptable for high school students to take their vocational courses as part of a comprehensive high school program. Three qualifications to this position need to be made.

Principle of Pluralism. Any general position should admit to the "principle of pluralism," to allow for differences in local situations and in the needs of deviant individuals. The best for some is not the best for all. For example, some youth may be so talented that they really need early vocational specialization. Some may wish to prepare for occupations for which few can qualify or for which there is a small demand.

Others may find the regular school environment so distasteful that specialized educational settings with a shop atmosphere or store-front look may be the right place for them. Still others may need to take vocational education as a part of a program of psychological and physical rehabilitation.

Range of Choice. One of the goals of the vocational education movement is to give each vocationally oriented student a range of programs from which to choose. Schools which can maintain only a few programs seriously limit the choice of students and do injustice to the principle of vocational commitment. To be comprehensive, a school also needs a comprehensive vocational education program. Some educators feel that high school students should have a minimum of ten programs from which to choose. Using a shared-time vocational-technical center is one arrangement by which general or comprehensive high schools can make themselves more comprehensive. Perhaps the term comprehensive school system would be more accurate than comprehensive school.

Resources and People. While structures and organizations are important, quality education of whatever mixture of vocational and general education depends also on the nature of the program offerings, the competence and professional spirit of the teachers, the instructional materials and facilities available and used, and the vision and energy of leadership. The conventional wisdom suggests that each of these factors is important; weakness in any one diminishes the value of the others. Harris suggests that:

If we respond to the new mood of acceptance for vocational education with bold and imaginative planning and with realistic programs free from the stultifying control of vested interests, real progress lies ahead. If, on the other hand, we use the expected five-fold expansion in vocational funds to finance a five-fold multiplication of past and present programs, the present boon will degenerate into the most disgraceful boondoggle of the decade. (20:361)

To move ahead on the basis suggested by Harris, it would be desirable for school administrators, vocational educators, community members and others to reassess their programs to see whether students' vocational education needs are being

met as well as their academic needs. Attention needs to be given to the attitudes of teachers, students, parents, and others toward vocational education. In the past, as now, high school programs have been largely determined by the leadership of superintendents and principals. Due credit or blame must also be given to those parsimonious and provincial school boards which, while keeping down costs, lowered the productive potential of a significant proportion of students.

The distrust some vocational educators feel of some administrators has been deserved. The time for change seems at hand, for the prevailing mood in many states and communities favors well financed, coordinated, total programs of education. In the spirit of improved total education, vocational educators may need to devise broader-based, more flexible programs, not only for the central-core vocational students but also for those students with a greater range of abilities, interests and behaviors than have characterized vocational students in the past. All educators will need to see how they can provide for more individual differences, integrated programs, and greater prevocational experiences and guidance. Methods need to be devised so that learning in occupation programs can be evaluated and credited for other programs. To accomplish these ends will take much communication and a frank facing and resolving of problems by school people in the several units that go to make a school system a system.

Continuing Questions About Vocational Education

The Vocational Education Act of 1963 stipulates that an evaluation report of federally supported vocational education programs will be presented to the President and Congress no later than January 1, 1968. Because of this requirement, the Division of Adult and Vocational Research of the U.S. Office of Education has placed "Program Evaluation" at the top of the list of seven priority research areas for 1966-67. As of March 1966 there were nine research projects in this area. These projects were concerned with the following six topics:

1. Measuring the relative effectiveness of on-the-job training, high school level vocational training, and general high school education.

2. Assessing the costs and benefits of vocational education in military service, private vocational institutions, and industry-sponsored training programs.
3. The influence of matching funds on local curriculum planning in selected occupations.
4. Comprehensive data processing and information systems analysis.
5. Factors influencing private decisions to invest in education and training; i.e., the conditions under which businesses assume the burden of supplying training.
6. Describing present and projected vocational education teachers by background, qualifications, and sources of supply.

In addition, there are some basic questions to which the Division of Adult and Vocational Research would like answers. Research proposals are sought for the following:

- I. Goals or objectives of vocational and technical education programs: What are they? What are the similarities, differences, or conflicts among the interests of federal policy-makers, state legislatures, state education departments, school administrators, researchers, employers, teachers, parents, and students? Which are realistic? Unrealistic? Which merit priority attention? Which best fit long-run national manpower needs and policies?
- II. What are the economic and non-economic costs and benefits of alternative vocational and technical education programs? Who pays? Who benefits? How long will it take for the benefits to exceed the costs? Will the payoff for individuals, local areas, states, and the country as a whole include higher income? Less unemployment? Greater job satisfaction and adaptability?
- III. What is the relative efficiency of the different methods of occupational skill development? Public and private vocational education, military service, and on-the-job training? What is the best mix of such programs, especially in new and growing technical occupational fields? (6: 16-17)

Answers to these and related questions plus the results of pilot projects, as well as information developed in planning studies, should help educators plan programs which make an increasing contribution to the economy of the nation and to the needs of those who prepare for their life's work through vocational education.

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The Committee's Conclusions

A Statement by the National Committee on Secondary Education

1. The public educational system has a basic obligation to aid the preparation of all young people for effectiveness in the world of work. The obligation is accentuated today because the transition from school to job is more difficult than it was, and vocational success is more dependent upon schooling. The nature of work is changing, and a growing proportion of jobs require a new order of competence. Since, for the foreseeable future, a high proportion of youth will enter the labor market at or before high school graduation, the secondary schools have a major responsibility.

This commitment to vocational preparation for all does not mean that attention to other basic educational purposes should be lessened. The schools must also help young people prepare for their adult roles as members of families, as citizens, and as participants in cultural and recreational activities. Preparation for all of these roles is interrelated. Sound general education is essential to vocational preparation; and vocational education, in turn, has much to contribute to other aspects of life.

2. Many traditional definitions and requirements of vocational education need to be modified to allow for expansion and variation. It is time to recognize that the vocational programs typically offered at the secondary level have served only a small fraction of the students and prepared for only a few types of work. The band of work types involved (e.g., agri-

culture, trade and industry, business and office occupations, distributive occupations, and vocational home economics) has been rather narrow, appropriate to the aspirations and abilities of a limited group of students.

- a. The *numbers* reached must be greatly increased. Before 1963, only some 15 percent of secondary school students were involved in specifically vocational programs. It looks as though, under present conditions, the appropriate "target group" may be of the order of 40 to 50 percent.
- b. The *levels* reached must be extended. At a level above traditional vocational education lie the rather new and rapidly burgeoning *technical* fields, which commonly require one or two years of post-secondary education. The high schools cannot take over the training for such fields, but they could offer the foundations of technical programs to be finished in post-secondary institutions. At a level below the traditional vocational programs there is great need for what we may call *occupational education*. This involves training for the simpler occupations—perhaps predominantly service occupations—presumably to be staffed by students of lesser ability and aspiration. The number of jobs available in this cluster appears destined to grow rapidly, and in a period of growing automation they seem to offer the best hope for young persons of limited ability.
- c. The *areas of work* covered by vocational offerings must be expanded, and changed when necessary to reflect changing job opportunities and requirements.

3. *The development of vocational competence involves much more than what is generally called occupational, vocational, or technical education.* A "complete program of vocational education" begins when the individual enters school and includes: (1) understanding of the world of work—its processes, agencies, and materials; (2) understanding of vocational opportunities; (3) exploratory vocational and work experiences; (4) pre-technical or introductory vocational education in a field; (5) training for a specific vocation; and (6) introductory employment experience. This approach is espe-

cially necessary with those many students who consider the academic curriculum so irrelevant that only "practical," job-oriented courses "make sense" to them.

4. *Vocational education must avoid too-exclusive emphasis on the building of a specific set of skills.* More positively, it must—and can—teach what it has to teach in such ways as to develop analytic problem solving, communicative abilities, the interpersonal attitudes and skills essential in a group situation, as well as the ability to adapt to change.

It is not possible to predict the economic future with certainty. But it is clear that the conditions of employment in an advanced technology place an increasing premium on general intellectual development, on the ability to think and solve problems, on the ability to *read* and *listen* and *communicate*, and on the ability to cooperate effectively in a team effort. Furthermore, the prospect of change implies the danger of *obsolescence of any set of skills*, and demands that young people be so educated that they can move flexibly as changes occur.

5. *Great care should be exercised to protect and strengthen each student's general and liberal education.* One means of doing so is the policy of many school districts to move specialized vocational education out of the tenth grade and to complete the program on a half-day basis in grades 11 and 12, utilizing grade 13 and grade 14 (half-time or full-time) when appropriate to complete training requirements. Such programs enable students to complete college entrance requirements as well as the vocational curriculum. The incorporation of work-study into programs running from the eleventh to the fourteenth grades also strengthens *continuing education* in both general and vocational education.

The dichotomy between general-liberal and vocational education probably need not be as great as it has been. Each could be designed to reinforce the other. The Committee is attracted to the position enunciated by the Summer Study Group at the Massachusetts Institute of Technology: that the general education of *all* students should have much more orientation toward the world of work and more direct involvement with materials and processes as the basis of prob-

lem-solving; and that vocational programs should be deliberately designed to lead back into basic academic work. The pretechnology programs already worked out on this basis in the San Francisco Bay Area show great promise. (16), (17)

6. *Special efforts are necessary on behalf of a sizable marginal group of students.* There are considerable numbers of young people who have done poorly so far in school and whose apparent prospects outside school may be poor, too. The causes of their problem are complex and varied. Some have simply never generated much interest in what the school has to offer, perhaps seeing it (not altogether incorrectly) as irrelevant to their style of life. They represent the type who, in previous generations, quit school early, got a job, and did reasonably well—only now that exit is being narrowed.

Quite a few of these pupils are alienated to the point of sullen or aggressive hostility; characteristically they have withdrawn from the social and extra-curricular life of the school. Both their school work and their employment prospects are hurt more by their attitudes and personality than by ability lacks. In many cases these factors are compounded by slum backgrounds and the special problems facing minority groups.

Common sense dictates that we recognize the futility and waste—and actual damage—in this situation and do what we can about it. Vocational education is not the panacea; even it, as typically organized, is still “too much like school” for some students. Nevertheless, the opportunity to get into something concrete and “practical”—and perhaps to begin earning money—is a saving thing for many, and may even make the rest of school more palatable.

It is important to note that the problems of this group tend to emerge early; for many, it will be too late if adjustments are not made by age 14 or 15, which means that the junior high school is involved. At the very least, the junior high school needs to be able to offer broad participation in exploratory prevocational experiences as well as such “practical” courses as industrial arts and home economics. Perhaps even more striking measures will be required. Though

this may go against the traditional education grain, the area seems to be one for bold and flexible adaptation.

7. *Schools must build a greater range of resources and capabilities into their programs to provide instruction and services needed by the range of students now in school.* High school dropout figures, the difficulties many students have in finding a job, and the experiences related by enrollees in Job Corps Centers all indicate that many young people do not find school attractive. Often they have not been able to cope with personal and social problems of which the school was unaware—or about which it lacked the ability to do much, even if it were aware.

- a. Schools need resources and practices which facilitate *close student-teacher relations* and a relatively high degree of *individualization of instruction*. Teachers need time to achieve an awareness of student problems, to build rapport, to react on a person-to-person basis, to counsel, and to make available non-classroom resources. All of these significantly enhance the teaching-learning process; they become more feasible when class size is small, when blocks of time are long, and when para-professional help is available.
- b. Many schools are increasing the use of individualized course programming to achieve greater flexibility in meeting individual needs.
- c. Services related to vocational education—counseling, guidance, and placement—may be as important as the vocational education itself. Employability and vocational success are highly dependent upon factors such as health, grooming, the ability to work with others, and wholesome attitudes toward authority. Some students will need extended individual and group counseling on these matters—perhaps even group therapy.
- d. Facilities and equipment related to vocational education and its supporting services should be as attractive and complete as those for other programs and services.

8. *For the achievement of these multiple objectives the comprehensive high school generally provides a good setting.* As

schools consider changes in their programs—particularly the expansion of vocational education—plans should be judged not simply by whether they will promote effective vocational education but also by whether they will facilitate the inter-relating of vocational studies with general-liberal studies.

Although there have been many variations, and experimentation is to be encouraged, it can probably be said that the standard model of the American secondary school is the *comprehensive* high school, combining diverse types of students and of curricula in one institution. As we move toward extended and diversified programs of vocational education, this model becomes increasingly difficult to maintain, especially in the smaller schools. The provision of specialized facilities and equipment may grow prohibitively expensive, especially since there may be few students in each line.

The natural result has been increasing consideration of the special vocational school, though, at the same time, several major cities are moving *away from* specialized schools and toward the comprehensive model. The Vocational Education Act of 1963 encouraged the development of area vocational schools, already in existence in some states and developing in some others. The Job Corps, in its urban centers, has been setting up what amounts to a system of residential vocational schools for out-of-school youth. Within the schools there is a great variety of arrangements in which students attend their "home" school for, say, half the day and go to another school for specialized training.

The difficulties of providing a full range of offerings in every school, particularly in rural areas, are real and obvious. Nevertheless, the possible consequences of some organizational trends are so important that it is time for sober thought. Placing a student's vocational studies in one institution and his general-liberal studies in another could lead to an artificial division between the two—at least make planned coordination more difficult. More fundamentally, designating some schools as "academic" and others as "vocational" could ultimately lead to divisions among the students themselves. Since it is predictable that the divisions would largely coincide with social-class lines, the result might be undesirable social stratification.

The picture is by no means clear as yet. Experimentation with varied forms should be encouraged. The main point is that a policy of drift and expediency, dominated solely by "efficiency" in vocational training, may lead to grave difficulties—and be hard to reverse. If the teaching profession and the public work thoughtfully to capture the twin benefits of effectiveness in vocational preparation *and* an integrated education system, the need for divisiveness may turn out to be much less than it may appear.

9. *Planning for vocational education should be comprehensive.* Vocational education at the secondary school level needs to be seen as a part of total vocational preparation, most of which is to be carried on at the post-high school and adult levels.

10. *There is great need for research on every facet of the preparation of youth for vocational effectiveness.* The need applies pervasively to the whole matter of vocational curricula, materials and methods, as well as to larger questions of school organization.

Even beyond this there is need to open up the whole question of what really constitutes good preparation for vocational life in our times. We are in a period of unprecedented whirl and ferment in our entire economic life. The bases of high productivity are different today from what they were yesterday—and they will be different again tomorrow. The whole relation of man to his work is changing. In such a situation a mere expansion of old routines is not good enough. It is a time for statesmanship.